

8036

THE
VINEYARD:
BEING A
TREATISE

SHEWING

- I. The Nature and Method of Planting, Manuring, Cultivating, and Dressing of VINES in Foreign-Parts.
- II. Proper Directions for Drawing, Pressing, Making, Keeping, Fining, and Curing all Defects in the Wine.
- III. An Easy and Familiar Method, of Planting and Raising Vines in *England*, to the greatest Perfection; illustrated with several useful Examples.
- IV. New Experiments in Grafting, Budding, or Inoculating; whereby all Sorts of Fruit may be much more improv'd than at present; Particularly the PEACH, APRICOT, NECTARINE, PLUMB, &c.
- V. The best Manner of raising several Sorts of compound Fruit, which have not yet been attempted in *England*.

Being the OBSERVATIONS made
By a GENTLEMAN in his Travels.

L O N D O N:

Printed for W. MEARS, at the *Lamb*, without
Temple-Bar. MDCCXXVII.



5.2d



TO THE
RIGHT HONOURABLE
His GRACE the
Duke of *CHANDOIS*.

MY LORD,

THE known Candour
and Generosity of your
Lordship, is so Great
and Extensive, that should I
endeavour to describe, I
should only Eclipse the same,
by a weak Recital of Part of
A 2 those

DEDICATION.

those shining Qualities which are so Inherent and Conspicuous in your Lordship. The extraordinary Encouragement you have been pleas'd to shew to those who have any ways contributed to the promoting of any useful Art or Science, emboldens me to lay the following Leaves at your Lordship's Feet. The Subject whereof I have endeavour'd to handle in such a Manner, as may induce the Readers to try the Practicableness thereof; when, I doubt not, it will be found, upon Experience, to answer Expectation, and convince the Publick, that so Useful and Advantageous a Part of Agriculture has been
so

DEDICATION.

so long neglected, to the Reproach of the Natives of our Island, and the Impoverishment of the Nation in General, who have Annually remitted vast Sums of Specie to purchase this exhillerating Liquor from Foreigners, which we might as well raise at home with a little Industry, and by a right Application. It seems as if Attempts of this Nature had been neglected, not altogether out of a parsimonious Temper, but for want of a true Knowledge, and some due Encouragment. The Farmers contents themselves with their yearly Crop of Grain; and are indeed necessitated so to do, by Reason

DEDICATION.

many times their Circumstances will nor permit them to continue several Years in Expectation of a Return; which they must do at their first planting a Vine-yard: tho' afterwards the annual Income would make them a very ample Satisfaction, would their Circumstances permit them to wait the Event. Amongst the Antients, he who first found out the Method of making Wine, was deified for the same; and had publick Games and Festivals instituted, Annually, in Honour of him, and his Invention. And tho' Christianity will instruct us better, than to pay an Adoration to our Fellow-Creatures

DEDICATION.

tures upon any Account whatsoever; yet there is certainly some Acknowledgments due to the most Deserving for their Introduction of any Art, Science or Invention, which shall become a National Advantage. Would some of our Quality (whose Circumstances will better permit them) try the Experiment for a few Years, till a Vine-yard could be brought to Perfection. The Success of so generous an Example would cause an Emulation amongst others; and their introducing so beneficial a Piece of Agriculture, would render them truly Patriots of their Country, and add a Lustre to their Characters, by

DEDICATION.

shewing their Endeavours
tend to the Promotion of the
Interest and Welfare of their
Fellow-Subjects, and to re-
move the Obligations of our
being beholden to our Neigh-
bours. Vines themselves have
sometimes been Strangers as
well in *Italy* as in *Britain*;
and if we will believe *Pliny*
and *Servius*, Cherries were
more rare in *Virgil's* time, in
those Parts, than Vines now
are with us; for *Lucullus*, not
long before *Virgil*, was the
first who introduc'd them in-
to *Italy*, from the City of *Ce-
rasus* in *Pontus*; from whence
the Tree bears the Name of
that Town; tho' Experience
now demonstrates the same
thrives

DEDICATION.

thrives as naturally here, as in *Italy*, or *Pontus* itself.

THE great Improvements that have been lately made, and new Means discover'd in raising divers Sorts of exotick and foreign Plants in this Country, which till now have been Strangers here, are Instances how much the Art of Agriculture is of late improv'd; and the strongest Reasons to induce to farther Experiments, especially in those, which by the Nature and Neighbourhood of the Soil and Climate, where they thrive so well, seem more adapted to this Country than several others which have been

DEDICATION.

been introduc'd from more distant Parts.

I FEAR I have too much trespass'd upon your Grace's Patience, by presuming to offer this rude Essay; but as the only Motive which induc'd me thereunto, was an earnest Desire to be serviceable to my Country. I the more readily hope for your Grace's Pardon, and an Acceptance of my Endeavours; which emboldens me to subscribe myself,

Your GRACE's

most Obedient,

and most humble Servant,

S. J.



TO THE READER.

Courteous READER,

IT has long been a prevailing Opinion, that the raising of Vines, to any tolerable Perfection in England, was altogether Impracticable; and that all Attempts of that Nature would prove Fruitless, tho' their Opinions were founded upon no better Reason than Want of Experience; it being a common Argument with many People, that such and such Things are altogether Impossible; because, had they been Practicable, they would have before been attempted. But the Absurdity of such Reasoning, is too trifling to need any Confutation, unless the Objectors can shew from several repeated Experiments, that all Attempts of that Tendency, have prov'd Ineffectual. But with regard to the Subject of the ensuing Discourse, 'tis plainly Demonstrable, that Vine-yards are easily Reconcilable to the Temper and Soil of our Climate. The Objection of the Want of Sun is easily confuted, when the Temperateness of our Soil is consider'd in Opposition to the Intemperature of France, &c. That the Grapes must not be too ripe, when gather'd for Wine; That the chief Excellency of the Wines consists in the Pressing, Drawing, and Managing thereof. That the Wines of several of the more Northerly Parts of France are much finer, and preferable to those of the more Southern Provinces, which is owing to the different Culture of the Vine-yards. That the Wines

of

To the READER.

of the Mosel (which lye so Northerly, that the Grapes of those Parts never come to such Maturity, as they will here, in the Southern Parts of our Island) are yet by the Industry of the Inhabitants, render'd Fine, Potable, Pleasant, and Preferable to those of divers other more Southern Parts; and with this Advantage, that they will keep three, four, or five Times as long as the other, and be the better for keeping; whereas the others, with Difficulty, will keep hardly five or six Tears, and some not so long.

THERE have been several Instances of divers Persons, who, out of Curiosity, have drawn Wine from Grapes of their own growth, here in England, which they have found to excel many foreign Wines, in their pleasant, brisk, and palatable Flavour. It may be objected, these Grapes have been the Product of those Vines planted in our Gardens, and nail'd up to the Walls, by which Means they obtain'd a greater Maturity of Ripeness.

BUT in Answer to this, let it be consider'd, that tho' such Vines, nail'd against the Walls of Houses, &c. may, by the Force and Reflection of the Sun Beams obtain a greater Degree of Heat; yet on the other Hand, it should be remember'd, that there is very seldom any Care taken in the Culture of them; for want whereof, they receive more Prejudice, than Advantage from the Reflection of Heat from the Wall.

BESIDES, those planted against Walls are suffer'd to run prodigiously, that they may appear the more beautiful to the Eye of the beholder. I had myself one of these Vines so planted, of the large Black Grape, which spread a Wall upwards of sixty Foot long, and twenty four Foot high, thereby filling a space of one hundred and sixty Square Yards, or fourteen Hundred and forty Square Feet, which single Vine only has produc'd four Busbels of Grapes in one Season, and in full Perfection. And I doubt not, had the
same

TO the READER.

same been annually cultivated and manured in the Manner herein after directed, it would have produced much more.

IT is then reasonable to believe, that these Vines planted in this Manner, and suffer'd to shoot so much, were the same yearly cultivated, as herein directed, and kept cut down to a more proper height, would not fail of producing a reasonable Quantity of Grapes fit for the Press, altho' planted out in a Vine-yard, without the Advantage of Reflection from Brick Walls, &c.

BUT to obviate any Objection that may be started by such, who will not allow the Probability of a reasonable Argument, nor admit of any thing less than plain Demonstration to suspend their Infidelity. I shall mention another Fact, of which I was an Eye-Witness. In the Year, last before this, when the Coldness of the Season prevented the Ripening of the Summer Fruit, and hardly any Sort whatever attained a due Perfection, a Gardiner, within the Limits of the Weekly Bills of Mortality, had a Parcel of young Vines, on which was a considerable Quantity of Grapes (these Vines were not planted against the Walls, but ran along upon the Ground) and finding the Backwardness of the Season, judging it impossible the Grapes could attain any tolerable Degree of Ripeness, suffer'd the Vines to spend themselves in shooting, and the Fruit to be cover'd with Leaves, that they could scarcely receive any Benefit at all from the Influence of the little Sun or Warmth there was in the whole Season) upon Inspection, he found, as he expected, the Fruit to be Greenish, Tart, and not fit for the Tooth at any Rate; he resolv'd therefore not to gather the same; but proffer'd them to any Body that would bestow the Trouble of picking them.

ACCORDINGLT his Donation was accepted; the Grapes were all gather'd, even to the very greenest and hardest of all, in order to try an Experiment.

They

To the READER.

They were press'd, and the Liquor put up in Casks, a little of it being first warm'd to promote a Fermentation with some Brown Sugar; after which, the same was suffer'd to stand some few Months in a warm Place to accelerate the Ripening thereof, when being drawn off into Bottles, about two Months afterwards; on tasting the same it appear'd to be a good, bright, fine, and strong body'd Wine, perfectly made, and well flavour'd, and was by several good Judges of Wine (who knew not how the same was made) esteem'd to be an excellent new Muscadine Wine.

ANOTHER Instance of the like Nature, happen'd to a Farmer's Wife in Kent, about twelve Years since, who gathering a large Quantity of unripe Grapes; finding them not fit for the Market, got them press'd, intending to make Vinegar thereof; and putting the Liquor up, into a Cask, set it in her Cellar, which being pretty warm, so accelerated the Ripening of the same, that about seven Months after tapping it, in Expectation of finding a tolerable Vinegar therein, she was agreeably surpris'd to find herself deceiv'd with a Glass of brisk and sparkling Wine, Pleasant to the Eye, and Grateful to the Palate.

THESE two Instances may be sufficient to evince, that the Want of Wine in England is not owing to the Unkindness of our Soil, or the Want of a benign Climate, but to the Inexperience of our Natives, or a Want of Curiosity in such as are capable of convincing themselves by an easy Experiment of the Practicableness thereof.

THE growing of Silk in England has been long look'd upon as an impracticable and ridiculous Project; nor was the same esteem'd any better in France. And the Authors of a Proposition for that Purpose were treated with all the ill Nature imaginable, as silly, idle, chymical Fellows. And the exploded Argument was urg'd against them, that if it had been possible,

TO the READER.

sible, it would have been long before put in Practice; and they would have had no Occasion to fetch their Silks from Persia, &c. But how any intended Design should succeed before an Experiment has been attempted, is what would be very difficult to determine. Who ever would introduce an Attempt of this Nature, would at first be ridicul'd as a Visionarie, or Person of weak Intellects and Understandings, who form'd to themselves wild and impracticable Notions of such Things as were not possible in Nature to be effected. The great Monsieur Colbert set himself earnestly about the Experiment, resolving by plain Demonstration to convince his Countrymen of their Infidelity. It succeeded even beyond Expectation; and they who before had been the most ready to decry the Proposition, were willing to atone for their false and presumptuous Assertions; and acknowledg'd their Error, by immediately encouraging so useful and profitable a Manufactory. Had a Colbert been Minister of State to King James the First in England, 'tis as reasonable to believe, we had at least been as early, and as great Proficients therein, as our Neighbours. Whereas to this Day there are not wanting those who will tell us, that our Climate is too cold to nourish the Worms to such a Degree as is necessary for their producing Silk to any Perfection.

BUT if this be an Objection, What will they say when they see our Neighbours the Hollanders carry on this profitable Manufactory in a colder Climate than ours? As those, who will give themselves the Trouble of stepping to Utrecht, may be satisfied they do in a successful Manner, as well as the planting Tobacco; which from being prohibited by Act of Parliament in England, may, in process of Time, likewise be thought impossible to be rais'd here to any Perfection.

HOW profitable the planting of Vine-yards would be in England, I need not mention, that is allow'd on all

TO the READER.

all Hands, were the same but Practicable; and such who shall carefully peruse the following Sheets, may be convinc'd that the same is so. The Method practis'd, both in Champaign and Burgundy, as well as other Parts of France, is so plainly laid down therein, as will render it plain and easy to the meanest Capacity, and those not recited barely from the Relation of other Persons, but taken from the daily Practice and Observation of the most Skillful and Industrious of the Inhabitants. Neither have I barely contented myself with a Relation of the Culture, Managment, &c. of their Vine-yards, &c. but likewise examined their several Reasons for the same, with the Observations that they have from time to time made thereon, and endeavour'd to account for them in such a Manner, as may be Satisfactory to the READER, and shall be sufficient to Illustrate the whole Design, so as to induce the Curious to try the Experiment. And by persuing the Directions herein laid down, convince the most Diffident, that the Want of Wines of the Growth of our own Country has not been owing to the Coldness of our Climate, so much as to the Want of due Encouragement, Industry, and a proper Method of Planting, Manuring, and Cultivating the same.

THE extraordinary Improvements lately made in Husbandry and Gardening have been so great, that it seems to have rous'd the Genius of the Nation, and given a peculiar turn to the Students in Agriculture, &c. The Encouragement several late Authors upon those Subjects have receiv'd, shews a more general Disposition to favour this Study, than has been known for many Tears past, and has lately introduc'd several foreign Plants and Vegetables into our Orchards and Gardens, which have hitherto been unknown to our Climate, but in a few Tears may become naturalized to our Soil; amongst which, the Vines are not only the most likely, but would prove one of the most Profitable.

THE



THE VINE-YARD, &c.

BEFORE we enter upon the following Discourse, it may not be improper to obviate some Objections that may arise, and is commonly made against the Planting of Vine-yards in *England*. Which is,

THAT the Climate is too cold, to produce Vines to any Perfection; that the Soil is poor, to that of Foreign Countries; And, that if it had been practicable, the Planting of Vine-yards would have before been attempted.

To the first of these Objections, we shall Answer, That if the Climate is not so Southerly as some Parts of *France*, *Spain*, and *Italy*, &c. 'tis yet more Southerly, than other Parts of the Continent; where they, notwithstanding, make very good Wines, and in large Quantities. That the Temperature of our *English* Climate more than balances the Objection, in favour of the most Southern Parts of *France*; where tho' they have the Ad-
vantage

vantage of a warmer Sun, they are subject to a greater Intemperance of the Weather: The violent and impetuous Storms of Hail, Rain, &c. even in the midst of Summer, attended by sudden Damps and Chilnesses never hapening in these Parts, frequently blasts, and destroys the Vine-yards, and the fairest Prospect of the Husband-man is not seldom ruin'd in one Hours time: There not being one Season, but the Vines shall in some Parts or other be totally destroy'd, or at least, very much damag'd by the Changeableness of the Weather.

THIS Intemperance of the Seasons must be allow'd by every Body, who have travelled over *France*, &c. and the Consequence thereof (even in such Vine-yards as have been least subjected to the Injury) perceivable in this, that notwithstanding their lying in a more Southerly Climate, the Grapes ripen not 'till the latter End of *August*, or the Beginning of *September*; and if the Season proves any thing backwards, 'tis frequent for the Fruit to hang upon the Vines 'till *October*, or the Beginning of *November*, without being ripe.

NOR is it to be believ'd, that the Fruit, when gathered, is riper or mellowier than it is with us in *England*; on the contrary, the Grapes when gather'd for the Press, in these Parts, must not be so ripe as when gathered for the Tooth. And those frequently brought to the Markets in *London* are over ripe, therefore not so fit for making Wine, as they would, if they had been gather'd a Week, ten Days, or a Fortnight before; for the Reasons, which, in their proper Place shall be given.

THIS probable, this Observation will be decry'd by those Persons who will not give themselves the

the Liberty of considering, and resolve to act upon an implicit Faith, divesting themselves of Reason, in Favour of any prejudicial Notions they are possess'd off; who having once obtain'd some favourite Absurdities, are so bigotted thereunto, that the plainest Demonstration and Reason will not be sufficient to dispossess them of this Demon of Obstinacy, and nothing less than a Miracle can be expected to root out their Ignorance.

BUT in order to the Conviction of such Persons, by Experiments daily in Practice, let them only enquire of the Cyder Makers, whether Apples full ripe, and mellow, are most proper for the making of that Liquor, or those not quite so ripe:

THE Answer they will receive to this Question, might be sufficient to evince, that Grapes may be as well too ripe to make Wine off, as not ripe enough.

THE Second Part of the Objection, that the Soil is too Poor, is more absurd than the other; for 'tis not the Soil, but the Culture of the Ground, which proves such a Friendly Assistant to the Fruit. The Soil of *France* is much poorer naturally, than that of *England*, and were not their Vine-yards husbanded, till'd, and manur'd every Year, with as much Art, Care, and Industry, as our Corn Lands in *England*, they would not be able to make a Piece of good Wine in a Season.

LET it be ask'd of any Person who have Vines growing in *England*, how often the Soil was dug, trench'd, cultivated, and manur'd since they were first planted, you shall be answered, not at all, that 'tis not usual to give themselves any farther
B 2
Trouble

Trouble about them, then only to Prune and Nail them.

BUT Reason will readily teach us, That where the Soil is yearly help'd, by fresh Manuring and Tillage, the exhausted Juices of the Earth must be invigorated and restor'd, and the Ground enabled to supply a due Nourishment to the Roots of the Vines: This, every Gardiner, and nursery Man can satisfy, that barely digging about, and exposing the Roots of the Trees to the fresh Air, strengthens and enlivens the same, and keeps them sound and vigorous; encreases the Circulation of the Juices; and frees them from those Distempers they would otherways be subject unto.

THAT the Culture and Management of the Vine-yards is more serviceable to the Vines than the Climate only, is easily demonstrable from common Experience; and from the Practice of the Antients, as well as Moderns, in all Parts of the World.

THE Sacred Writings are full of Expressions, alluding to the Practice of those Times, condemning the Sloathful whose Vine-yards lay uncultivated, and whose Vines were choak'd with Weeds.

THE Practice of all Countries, and all Ages, shew the Culture and Tillage to be the most essential Part in a good Vine-yard.

ÆSOP's Old Man gave a good Lesson to his Sons, when he left them, as a Legacy, the Money he had buried in his Vine-yard, which their greedy Desire made them interpret to be some Heaps
of

of Gold amass'd up, and concealed in the Earth, this made them Industrious to dig through the whole Vine-yard, and turn up the same in all Places. They were chagreen'd when they could not find one Penny, tho' the ensuing Crop made them an ample Amends for their Labour; and they then perceiv'd their Father's Advice to be very beneficial, and the Legacy he had left them, to be an inexhaustable Fund of Riches, which they might reap Annually, if they would only give themselves the trouble of searching for it.

THE Preference due to the Wines of some Provinces before others, is not owing to the Soil, but the Culture, of which, Custom has introduc'd divers Ways, the Manner of which, in *Champaign*, and *Burgundy*, (those Wines having obtain'd a Preference to most others) is, what is here chiefly intended to be treated of; tho' we shall occasionally mention that of other Provinces, in order to shew the Difference of Planting, Cultivating, and Maturing a Vine-yard, and the Variety of the Fruit, occasioned by such different Methods.

As to the latter part of the Objection, That if the Planting of Vines, and the making of Wine in *England* had been practicable, the same would long since have been put in Execution: The same is so weak and absurd, that were it not too general, it would be ridiculous to confute it.

HOWEVER, to Answer such as shall lay a mighty Stress upon the Discontinuance, or Non-
B 3

usure of this Practice, it may not be amiss to say something.

I call it a Discontinuance only, for that Vineyards have been formerly Planted, with good Success, in *England*, is beyond Objection; there being divers Places, where the same formerly were, which yet, in Remembrance thereof, retain the Name of *Vine-yard* to this Day.

SUCH as are curious to be satisfied therein, need only have recourse to *Dooms Day Book*, in the *Tower*; the grand Record of the Lands in this Kingdom; where they may meet with numberless Instances, as well as during the Reign of several succeeding Princes to *William* the First, Sir-named the *Conqueror*.

How they came to be destroy'd, is easy to be accounted for, if 'tis consider'd, that Corn is a more necessary Article for the Support of Life, than the Grape. And since, in former Times, we were oblig'd to Import vast Quantities of Corn from *France*, *Flanders*, and other Parts, the Prices naturally were enhanc'd; To prevent the evil Consequences of a Scarcity, an Enquiry was begun, whether our *English* Soil was not as fit to produce Wheat, Barley, and Oats, as it was found productive of Vines; the Experiment answer'd beyond Expectation; and the First who fell into the Method of sowing Corn instead of Planting Vine-yards, reap'd such extravagant Profit thereby, as occasion'd the generality of People to come into the Method of Cultivating Corn Land; whilst our Neighbours on the other Side, who abounded in all Sorts of Grain, which, by the vast Quantities they raised,

raised, reduc'd the Profits to very inconsiderable, were as fond of Planting Vine-yards, in Hopes of a greater Benefit by the same.

PLINT, in his History, commends the Wines of *England*, for Goodness, and an agreeable Taste, and Rellish, peculiar to the Growth of this Country, as not being so apt to turn Eager, and Sower, as others were: And likewise, commends the Ale and Beer, of *France* and *Spain*, in his Time.

AN Argument our Neighbours were as intent in their Tillage of Corn Land, in those Times, as they are now in the Product of their Vine-yards. Adding to that, That we were then oblig'd to be beholding to our Neighbours, particularly *France*, for vast Quantities of all Sorts of Grain yearly: Whereas, We now supply those very Countries, as well as *Holland*, with several Millions of Bushels of Corn, Grain, &c. Annually.

THUS, Interest originally, was the Motive to discontinue the Cultivating of Vines in *England*, and turning the Vine-yards into arable Lands; a Practice, not much unlike it, we see at this very Time, in *Kent*, where Thousands of Acres of Arable, is turn'd into Cherry Gardens, and Hop Grounds; and should the Profits thereof introduce a general Practice through out the Nation, it might in a Century or two of Years, be thought impracticable, to raise Wheat, Barley, Rye, Oats, or other Pulse, or Grain, in these Northern Parts.

'Tis not above a Century or two of Years since the Planting the Peach, the Nectrine, the Apricot, the Cherry, and the Hop, were treated in as ridiculous a Manner, as the Vine-yards at present are, in this Country; and all Attempts of that Nature decry'd as impracticable. But the Success has justified the Proceedings, to the Advantage of those, who have early enough fall'n into the Practice thereof, as well as the no little Ornament of our Gardens, and Orchards.

THE French Author of a little Book, intituled, *The Political Treasure*, Speaking of the Fruitfulness of his own Country, and comparing it with other Provinces, has Vanity enough to represent it as the *Eden of Europe*; but how justly, the Reader may judge, when speaking of this Island, he says,

THE Kingdom of England, 'tis true, abounds with Black Cattle, &c. and being very thinly Peopled, they find no Want of Bread Corn, which they must do, were their Inhabitants as numerous, as in France; but as to the Superfluities with which we (meaning France) abound, they are quite destitute; insomuch, that the Orange, Lemon, Peach, Apricot, &c. can find no Place amongst them; nay, the poor HOP, cannot with all their Art, and Skill, prosper in that Country, (meaning England).

How true this Assertion is, let our Readers determine, who have been amongst our Hop Grounds in *Kent*; where they will find our *English* Hops are superior to those of any other Country; not those of *France*, and *Flanders*,
from

from whence they were first brought into this Country, can be put in Competition with them; so far have our Planters improv'd upon those Countries from whence they came, by their Care, and improv'd Skill in Planting, Growing, Picking, and Curing of them.

WHY an equal Success may not be expected in Planting of Vine-yards here in *England*, would puzzle the Objectors to shew; And a little Time, and Experience, convince them that all their Cavils against the Possibility thereof, are vain and groundless.

HAVING thus answer'd this Objection, I shall now proceed to demonstrate the Nature, and Manner of Planting Vine-yards, Dressing, Cultivating, and Managing of the Vines. Making, preparing, and keeping the Wines, according to the most exact Manner of the *Vignerons*, in *Burgundy*, *Champaign*, and other Parts of *France*, &c.

THE Soil of *France* is various, according to it's several Provinces. The most Northerly, as *Hainault*, *Artois*, and *Luxemburgh*, are of a heavy, cold Nature, and not so kindly a Soil as the *English*; in these Provinces there grows no Vines, for Vine-yards; only Corn, the Soil being more adapted thereunto, and with less Care and Trouble; in *Picardy* the Soil is more Sandy, but generally Barren, except towards the Borders of *Normandy*, where is good Arable Pasture Land, like as is in *Normandy*, and many Parts in *England*: Tho' in *Normandy* there are very few Vine-yards, at this Time, notwithstanding, *Deip* was once famous for the best Wines

Wines in *France*; the same Reason which has discontinued the Planting of them in *England*, has prevail'd in *Normandy*, and their Vine-yards have given Way to Orchards, Gardens and Corn-Fields, which turn to better Advantage to the Inhabitants; that being allow'd to be one of the best Provinces in all *France*: The Soil of *Champaign*, is somewhat like that of *Normandy*, excepting it is more Chalkey and Sandy in many Places: In *Lotharingia*, and *Alsatia*, the next Provinces, tho' as Northerly as some Parts of *England*, there yet grow very good Vine-yards; and the Wines in *Alsace* are not esteem'd the worst Wines in *Europe*; on the Contrary, they are allow'd to exceed those of *Paris*, and divers of the more Southerly Parts of *France*; in the Isle of *France*, about *Paris*, *Beausse*, *Burgundy*, *Touraine*, *Poitou*, *Anjoy*, *Bretaine*, and up in the other Provinces of *Xaintoigne*, *Limisin*, *Query*, *Dauphine*, Province, *Languedock*, *Gascoigne*, and *Armignack*, the Country is more Mountainous, in many Places not unlike the craggy Hills of *Wales*; in other Parts, a Clayey, Chalkey Soil, like the Rockey Parts of *Kent*; and the Generality of the whole Country is Light, Sandy, Chalky and Mountainous; the Earth in many Places not being above 12 or 18 Inches deep, and in most, not above three or four Foot, especially, those Places most apply'd to the growing of Vine-yards.

As the Climate is more Southerly, so it has the Advantage of a Warmer Sun; but on the other Hand, they are subject to such violent, and impetuous Showers of Rain, Hail, &c. attended with an uncommon Chilness, both in *April*, *May*, *June*, *July*, and all the *Summer*, which

which generally proves destructive in one Place or other, to the Vine-yards, not only by destroying the Fruit, for that Season, but by Blasting, or killing the Vines; at least, will so much check the Growth, that the Grapes shall not be ripe before the latter End of *September*, or *October*; and in such Seasons, the Fruit would sooner be fit for the Press in *England*. Or, in the best of Years, their Vintage would not be ripe above a Fortnight, or three Weeks before ours, were our Vine-yards managed with the same Care and Industry as theirs.

THE pernicious Consequence of these impetuous Showers, I have been a Witness off, particularly of one, which destroy'd most of the Vine-yards, for above ten Miles round about in a few Hours Space; and do not remember, ever to have seen so impetuous and violent a Storm of Rain in *England*; which I found, and was inform'd afterwards, their Seasons were frequently attended with.

THE Soil coveted by the *French*, for Planting of Vine-yards, is either Stoney, Gravelly, Sandey, or Chalkey; and not Meadow, or Arable Land, such being chiefly appropriated to raising of Corn, as being more profitable than Vine-yards, to the Owners; as instanced before, in the Province of *Normandy*, where are very few Vine-yards, except, about *Bonnier*, where the Soil is more Sandey, Stoney, and Chalkey, like that about *Paris*; and tho' more Northerly, being equal in Latitude, with the Southern Parts of *England*, yet, the *Bonnier* Wines are allow'd to be far preferable to those of *Paris*, or within 45 or 50 Miles more Southerly, of
it's

it's Neighbourhood; as they really are, being of a stronger, deeper, and brighter Body and Colour, and of a better Taste and Flavour; which cannot be pretended to be owing to the Difference of Latitude, unless, the Northern be most preferable; but is occasion'd by the different Manner of Cultivating, and manning their Vineyards, wherein the *Bommerians* so much exceed the *Parisians*.

IN the Planting of a Vine-yard, (if it may be had, as desired) these three Things are necessary to observ'd.

First, THAT the Soil be either Chalkey, Sandy, or light and Gravelly, and not a heavy, cold, nor Clayey Soil.

Secondly, THAT it lye on the South, or the South-west Side of a Hill or Assent, (the Steepness whereof will be no Objection) the better to protect it from the North, and North-east Winds.

Thirdly, THAT it be upon the Bank, or Banks of Rivers, Southerly to the same; or, running by, or, thro' the Vine-yard; for the Reasons that shall hereafter be given.

A Piece of Ground thus laid out, has all the Appearance, that can be desired, of being made into a rich, and fruitful Vine-yard, if Industry, and a due Method be observ'd in the Culture thereof. For,

First, As to the Soil, the Vines being of a luxurious Nature, must not be pinch'd in the Ground,

Ground, but have Room, and Liberty to spread and shoot therein, which a Light, Gravelly, or Sandy Soil will give them; but a Cold Heavy, Clayey Soil, deads, chills, and binds the Roots, that they cannot spread and extend themselves in the Earth, as they should do; neither has it Juices and Nourishment fit and adapted to the supplying thereof; adding to this also, that a Light, Sandy, Gravelly, or Chalkey Soil, is much hotter than any other.

Secondly, THE Planting on the Side of a Hill, exposes the Vines more to the Heat of the Sun, keeps off the Intemperate Winds, and throws off the Rain, when the too impetuous Showers might be prejudicial, by chilling the Roots of the Vines; the Assent can never be an Objection, and I have frequently seen Vineyards planted on the Sides of Hills, almost to a Perpendicular.

Thirdly, A Vine-yard planted in this Manner, can never want sufficient Moisture, even in the dryest Season, for when the Drouth is the most excessive, the Dews and Vapours which are Nightly exhal'd from the River, descending again, are dispers'd by the Air, and carried amongst the Vines, which settling thereon, gives a pleasant refreshing Coolness, and moistens the Earth sufficiently; without being liable to the pernicious Effects of sudden impetuous and violent Showers and Rain.

THIS is the Method observ'd in *Burgundy* and *Champaign*, in planting of Vine-yards, as much as possible; and being Hilly, Mountainous Countries, gives the Inhabitants the greater Opportunity

portunity of so Planting: And 'tis to this Observation, that the Inhabitants of those Provinces, allow the Preference given to their Wines to be due; for they, themselves allow, that 'till this Practice became general amongst them, which has not been of more than sixty or seventy Years standing, their Wines had not that Repute, and Credit they now have.

THEY readily admit their Fore-Fathers were content to drudge on in the old beaten Road of Antiquity, and Plant, Cultivate, and Manage their Vine-yards, with the same Carelessness and Indolence, as the rest of their Neighbours; untill the Success of the more Diligent and Industrious open'd the Eyes of their Understanding; and the Advantages of a plentiful Vintage encourag'd them to proceed in their Improvements.

THE Remembrance of this Success, has encourag'd them to proceed in other Attempts of Improvement; and they are within this ten Years fall'n into the Manner of making Red Wines after the Method the *Burgundians* do; in which, the Success has likewise answer'd their Expectation: And they now make yearly in *Champaign*, great Quantities of Red Wine, after the Manner of *Burgundy*, which they Export and send to Forreign Countries, and there sell for *Burgundy*.

IN the same Manner, the *Burgundians* have likewise fall'n upon the Method of making White Wines in *Burgundy*, after the Manner of *Champaign*, and with the like Success of the *Champaigners*.

FROM

FROM whence it is obvious, 'tis not from any particular Quality in the Soil of those Countries, different from each other, or in either of them, different from the Soil of the other Provinces of *France*, that gives the particular Quality, Gust, or Flavour, to either of those Wines, more than to the Wines of any other Provinces, and justly renders them preferable thereunto: But to the particular Method, and Industry of the Natives, and the Manner observed by them, in Cultivating, and Manageing their Vine-yards.

IT may be here proper to observe, that the Management, Culture, Tillage, and Manuring of Vine-yards are as different as the several Provinces: So likewise the Times and Seasons of Tillage, Culture, Pruning, and Cutting of their Vines; as it is in *England*, amongst our Husband-Men and Farmers; where according to the Richness, or Poorness of the Soil, one Manures with Soot, another with Ashes, a third with Chalk, a fourth with Dung, a fifth with Marle, a sixth with Loom; besides their Sowing in different Seasons may accelerate, or retard the Growth of the Corn, and occasion an Increase, or decrease in the Quantity and Fullness of it, as well as in the Fineness, and Goodness thereof: This every Farmer and Husband-Man knows, tho' the Difference is not so perceivable in Corn or Grain, as it is in Wine.

THE Reason is obvious, because Corn once sow'd, grows 'till it is fit for the Mill, and needs no other Preparation, than that of Thrashing, Winnowing, Grinding, and Sifting, to render it fit for Use. Whereas besides the Culture,
and

and Management of the Vines, there is after the Time of the Vintage another Operation at least, as difficult as the former, to be Perform'd. That is the Pressing, Making, Working, and Keeping the Wine till it is fit for the Palate; which is an Operation full as nice, and requires the utmost Care in the Performance.

HAVING premised this, I shall now proceed to shew, how a Piece of Ground, contriv'd as is before-mention'd, is to be laid out in the most proper Manner, to answer the Ends propos'd of making a Compleat Vine-yard.

HAVING made Choice of a Piece of Ground, in the Manner before describ'd, it must first be clear'd of all obnoxious Herbs, Weeds, Grass, &c. Then it must be thrown up Trench-wise, either North and South, or East and West; which last, is best, by Reason the Northern Trench protects the next, and that again, the other, and in like Manner, thro' the whole Vine-yard, from any pernicious Blasts and Winds.

It must be trench'd in the same Manner our Gard'ners and Nursery-Men do their Ground, upon the breaking of it up; only with this Difference, that the Trenches must be both deeper and broader; they ought to be at least four Foot a-sunder, and three Foot in Height, tho' more or less is sometimes allow'd, according as the Nature of the Soil requires; If it be too moist a Soil, it will then be proper to Plant the Vines on the Tops of the Ridges; if the contrary, in the Bottom of the Furrows; 'Tis best to Plant them, two Rows on the Top of each Ridge, or two Rows in the Bottom
of

of each Furrow, at the Distance of about twelve Inches asunder, which will be sufficient.

IF the Ground be moderately moist, or near to Water or Rivers, so that the Dews or Vapours can descend upon the Vines, it will be best to Plant them on the Tops of the Ridges. The Tops whereof being about twenty Inches, or two Foot over, and the Vines planted in two Rows thereon, at the Distance before-said, there will be sufficient Room to walk along the Furrows between the Ridges, without prejudicing the Vines, which would otherwise be of fatal Consequence to a good Vine-yard, as shall be hereafter demonstrated.

I HAVE, indeed, seen several Vine-yards in other Parts of *France*, where the Vines have been Planted promiscuously, at about the Distance of twelve or eighteen Inches asunder, for the sake of having a greater Number of Vines upon the same Quantity of Ground, and that without the Caution of Trenching them; By which it has been impossible to Walk thro' such a Vine-yard without tearing and breaking the Vines; besides which Ill-conveniency, the Ground being over-stock'd, has not yielded a sufficient Supply of proper Nourishment to support them, and the Fruit thereon has been very small, and more flat and insipid in Taste, than that of others, regularly planted, as I have before directed.

THIS Practice is not allow'd of, neither by the *Champaigners*, nor *Burgundians*, who will not admit that such a Vine-yard can ever produce good Wines; and they decry the same, as
C being

being both a careless and imprudent Management.

BUT before the Ground is thrown into Trenches fit for Planting, it should be all turn'd with a Spade, and intermixt with some light and proper Manure, to mellow the same, before it be Trench'd.

THE Manure the *Champaigners* make Use of on this Occasion, and what is most proper for this Use, is Hog's Dung, Cow's Dung, and Sheep's Dung mix'd together; which being often turn'd, and expos'd to the Air, and then intermix'd with some light Mould or Earth, and turn'd often with the Spade, is intermix'd with the Earth before it is thrown up into Trenches. For this light Manure, not only mellows, but lightens the Soil, and renders it more fit for the Vines; if the Ground be too heavy or cold, then to mix some Chalk amongst it, may not be improper.

As to Horse Dung, That is by no Means proper, nor do the *Champaigners* ever make Use thereof, but upon the most urgent Necessity, and then very sparingly, not above one fifth Part of that, to four Fifths of Cow's Dung, Sheep's Dung, or Hog's Dung, which must be well mixt together, and exposed to the Sun and Air, and must likewise be mixt with an equal Quantity of light Earth or Mould.

THIS Sort of Manure, they prepare long before they make Use of it, and let it lye expos'd to the Air, at least 12 Months before they will apply it to Use; during which Time, they

they frequently turn it, as well to draw off the Heat, as the ill Smell and Vapours arising there from.

For this they have found by repeated Experiments, that the Dung of Horses before the Strength is Evaporated proves destructive to the Vine-yards, frequently scalding the Roots, and destroying the same.

LIKEWISE the Smell and Odour arising there from, even when the Heat is Dissipated, affects the Vines, and gives a Taste to the Grape, which proves prejudicial to the Wine, by giving an ill Flavour thereunto, which is not to be drawn off by Art, but will be still Predominant.

HAVING made Choice of a piece of Ground, as before directed, either inclining to a light Gravelly, Sandy, or Chalkey Soil, naturally dry, and not moist, heavy nor Clayey; and improv'd and lighten'd the Soil, by some proper Manure, as herein describ'd, after having well mixt the same in the Ground by Digging; then throwing your Vine-yard up into Trenches; You may proceed to the Planting your Vines, either in the Furrows, or on the Ridges, as you find to be most proper, according to the Nature of your Soil.

YOUR Vine-yard being in this Order, you are then to proceed to the Planting the same, having made Choise of a sufficient Stock of young Vines, and of the Sort you intend to Plant.

EVERY Acre of Ground to be planted in the Manner as here directed, will require about six Thousand six Hundred Vines, if Set at the Distance propos'd.

THE Vines I would advise, as most proper for this Climate, and as being the Hardiest, are the small black Muscadine, which are the same planted by the *Champaigners* and *Burgundians*, in their Vine-yards.

SOME Persons who have large Vine-yards, raise these Vines themselves, but the generality of People, buy them of the Nursery-Men, who raise them for Sale, as our Nursery-Men in *England* do their Plants and Trees; And these Vines they can purchase at about a Pistole a Thousand, of the People whom they call *Pip-pineers*.

As to the white Grape, it is not so fit for a Vine-yard, as this before describ'd, for the Wine from thence made, will not be so Brisk and fine as that drawn from the black Grapes.

THE proper Time for Planting a Vine-yard, is about *October*, tho' there have been some not planted 'till *March*, but that is not so fit; those planted in *October* are much better.

THOSE Persons who have not the Opportunity of procuring a sufficient Quantity of young Vines from the Nursery-Men, may soon raise a sufficient Stock from the Grape Stones, which I esteem better than those rais'd from

from Layers, or brought out of the Nursery Grounds: For,

First, THOSE Vines produc'd from the Grape Stones, are much stronger, will bear better, and are naturaliz'd to the Soil.

Secondly, THEY will Flourish much longer, and will be better able to bear any Intemperance of the Weather than those brought out of any Foreign Soil.

Thirdly, YOU may, in the Grape Season, make Choise of such Grapes by the Taste, as you think proper for your Vine-yard, and laying by the Stones 'till the proper Season, then Sow them; without any Danger of being deceiv'd by the Nursery-Men, who will frequently sell you White for Black, or one Sort for another, which you cannot discover presently; and thereby run the Hazard of spoiling your Vine-yard, by a Mixture of bad Fruit; or at least, loosing several Years Growth, if you remove the same, upon a Discovery.

THUS having got your Ground prepar'd, and your Vines in Readiness for Planting, you next proceed to Set the same, in the following Method; you must begin either on the Ridges, or in the Furrows, by making a Hole with a Howe, or Pick-Axe, or small Shovel on purpose, about a Foot deep, into which Plant your Vine; when you fill the Hole up again with Mould, throw in a Handful or two, of such prepar'd Manure, as is before-mention'd, along with it.

AND *here Note*, That those Vines which are planted with Roots and Fibres of their natural Production, will thrive much better than others planted from Cuttings, or Layers.

THUS proceed to Plant your Vines thro'out your Vine-yard, at the Distance of one Foot each, two and two Rows of like Distance on each Ridge, or in each Furrow: The Planting on the Ridges, I would advise, as most proper, if the Soil will admit thereof.

HAVING thus finish'd the Planting of your Vine-yard, you may expect to see the Product thereof the third Year, which will be increasing the fourth, and fifth, and on to the sixth, seventh, and eighth Year; when it will be in full Perfection, and continue Bearing with Vigour, for sixty Years, or more; provided the same be yearly Till'd, Manur'd, and Cultivated according to the Directions herein given.

IF, when your Vines begin to Bear, you perceive any white Grapes, or of different Sorts, from what you intend, it will be best to remove them, and to Plant others in the Room thereof; which you may be supply'd with, from the Cuttings, and Suckers which must be taken from the Others, to prevent their checking the Growth of the Fruit.

THERE are, indeed, two Sorts of Vines Planted, or rather, two Sorts of Vine-yards Cultivated in *Champaign*; They both proceeding from the same small Black Muscadine Grape; the one call'd, the *Low Vines*; the other, the *High*

High Vines: The *Low Vines* they suffer not to run above three Foot, very rarely four Foot high.

THESE *Low Vines* will Bear betwixt two and three Pieces of Wine, but very rarely so much as four Pieces of Wine *per Acre*, each Peice containing fifty Gallons *English Measure*.

THE *High Vines*, are so call'd, because they are suffer'd to run about seven or eight Foot high; and will, indeed, Bear about seven or eight Pieces *per Acre*; but this Wine is not so good and fine, nor has that delicious Flavour the other Sort hath; For which Reason the *Champaigners*, most generally Cultivate the *Low Vines*, and find it most profitable so to do.

ABOUT the Month of *February*, next after the Vines have been Planted, the *Champaigners* go thro' their Vine-yards with Baskets of their Manure, before-mention'd, and spread a Shovel full or two thereof, about the Root of each Plant; letting it lye so expos'd to the Sun, Wind, and Weather, for the Space of about eight or ten Days; during which Time, the ill Scent and Odour arising from the Dung will be dispers'd and evaporated; at the End of which Time, they again go thro' the Vine-yard, and making a little Hole, with a small Pick, Hoe, or Shovel, behind the Root of each Plant, they bury the Manure before spread about the Root, therein; which invigorates and strengthens the Roots of the Plants.

THERE are some Persons, however, will let the said Manure lye several Weeks expos'd about

about the Roots of the Vines, before they will bury the same; but Experience shews this last Practice not to be so good as the former, for with too long lying, in that Manner, the Substance as well as the Odour, will be dissipated; and it will be of little use, towards Nourishing them, when the Strength is Evaporated by being too long expos'd to the Heat of the Sun, the Air, Wind, and Rain.

THE *Champaigners* are always very careful of giving their Vines, their proper Tillage, Manuring, Dressing, and Pruning, which they call the four ordinary Works of the Seasons, tho' these are not in all Places observ'd equally alike.

First, ABOUT the Month of *November*, they Dig through the Vine-yard, turning the Earth at least ten or twelve Inches, or what our Gardiners and Nursery-Men term a Spit deep.

SOME will not dig their Vine-yards until *February*, but they may sensibly perceive the Disadvantage thereof; for by digging the same in *November*, the Pores of the Earth are open'd to admit the Particles of Rain, Snow, &c. according to the Season, which greatly refreshes the Roots of the Vines, and the Earth is thereby invigorated by the Spirituous Dews and Vapours, and the proper Salts, which uniting themselves with the Particles of the Soil, Feed and Nourish the Vines, with proper Juices. Whereas, if the Soil be not turn'd until *February*, the Sun increasing in its Strength, extracts and draws out the little remaining Salts and

and Juices which were not before exhausted in supplying the Vines with due Nourishment.

Secondly, THE annual Manuring them in the Method before describ'd; for, where that is omitted, the Consequences will visibly appear by the Decrease of the Quantity of the Fruit.

Thirdly, THE Pruning of the Vines.

HERE it is to be observ'd, That the Time of Pruning, is not equally observ'd, by all alike; Some Persons will Prune their Vines in *January*, others in *February*, and some again not untill *March*: But by due Observation, it is found, Those who Prune their Vine-yards in *February*, choose the most proper Time for the doing thereof. For,

THOSE who for the sake of having early Fruit, will Prune their Vines in *January*, run the Hazard of destroying their Vine-yard; for, frequent Experience shews, That the Vines, which are Prun'd then, will (if the Season proves Favourable) produce Early Fruit, but the Consequence is, That they shall sensibly languish for several Years, before they can Recover themselves; and if the Weather should prove any thing hard, or severe, they will certainly die, if not that Year, in a short Time afterwards: For, Their being Cut too soon, exposes them to the Extremity of the Frost, and Cold, which is very prejudicial to them.

ON the other Hand, those, who either to thup the Hazard of losing their Vines by too
Early

Early Cutting them; or, That thro' Custom, or Negligence, omit the Pruning them until *March*, run into an Error equally as fatal. For,

First, THE Sap affending, or rather, the Juices being then in full Circulation occasion'd by the invigorating Nourishment supply'd from the Roots, occasions the Vines to Branch and shoot out, and throw themselves more into Wood: Whereas, if they are Prun'd in Time, and the Luxurant Branches, Shoots, and Suckers taken off, those Juices which are spent in such Nourishment, would be converted into proper Aliment, for supporting and encreasing the Quantity, as well as Quality of the Fruit; for, where ever any Trees, &c. are suffer'd to Branch too much, the Fruit may always be observ'd to be more flat and insipid, as well as less in Proportion, both to Size and Quantity. Again,

Secondly, THE Vines being too lately Cut when the Juices are in a full Circulation, it has been frequently found by Experience, That such have bled themselves to Death.

THE most proper Time for Cutting the Vines is, in the latter End of *February*, because then the Severity of the Frost are over, and the approaching Season occasions the Increase of the Circulation of the Juices, which is strong enough to support the Vines from any Intemperance of the Weather; for, after the latter End of *February*, the Severity of the Colds and Frosts are pretty well over; at least they are but of short Intervals, and Continuance not sufficient to Damage the Vines so, as to endanger the Killing

Killing thereof, on the one Hand; neither on the other, Is the Season so far Advanc'd, as that the Pruning of them, can any ways occasion their Bleeding to Death; nor have they too far spent themselves, by Branching out too much into Wood.

CONTINUAL Experience shews, That those Vines Prun'd about the Middle, or latter End of *February*, are freed from all the Inconveniencies before-mention'd, and rarely fail of producing a very good Stock of Fruit, and Shoot more strongly and vigorously than others.

THE Sticking and Trimming the Vines, is what is call'd, the Fourth ordinary Work, The Manner of which, is thus,

ABOUT the latter End of *March*, you must provide a Number of Sticks, for Sticking your Vines. These Sticks in *Champaign* and *Burgundy*, and generally, in most Parts of *France*, are of Quarter'd Oak, (tho' in some Places, they use Chesnut instead thereof) about an Inch square, and about four or five Foot long; one of which, is allow'd to each Vine, which they Stick, as our Gardiners, in many Places, do their *French Beans*.

THESE Sticks are generally of Oak, for those they find to be the most durable, for they will last above 20 Years, when the Points decay, as they will in about six or seven Years, they will sharpen them again, by cutting off about two or three Inches thereof; for as they do not suffer their Vines to run above three, or at the most four Foot high, they will bear three Cuttings,

tings, and be yet long enough for the Vine-yard.

HAVING with these Sticks, stuck all your Vines quite thro' the Vine-yard, at the same Time, they Prune away all the young Shoots which appear from the Roots, and also crop the Tops of the Vines, not leaving them above two Foot in Height, nor more than two Shoots, if strong ones; or but one, if it be otherways, from each Root.

THIS Cropping the Tops off of the Vines, prevents their Shooting so high, which otherways they would; and likewise, their spending themselves in superfluous Shoots and Branches, to the Prejudice of the Fruit.

HAVING thus done, they tye up the Vines to the Sticks, with small Rushes, or Balts for that Purpose; to prevent their lying upon the Ground, or being intangl'd one with the other.

THIS Custom of Topping the Vines they observe, not only in *March*, when they Stick the same; but also, again in *May*, they Nip off all the Tops, and young Shoots, which are sprung up since the Sticking of them in *March*; again likewise, in *June*, at which Time, they will not only Crop off the Tops, but also Nip off the Leaves, where they hang so thick, as to Cover the Grapes from the Sun; which, by being thus laid open, and expos'd thereto, will the sooner Ripen, and be fit to gather.

THEY

THEY do not always observe the same Times for Topping the Vines, and picking off the Leaves, by Reason they Shoot faster in some Years, than in others; in some Years once or twice will be sufficient; in others, they may be Crop'd, four, five, or six Times, according as they Shoot; for their Vines are after *April* kept so bare of Leaves, that one of these *Low Vines* shall not have above ten or twelve Leaves upon it: And unless the same be Crop'd and kept low, and pretty free from Leaves, they will spend themselves too much, to the prejudice of the Fruit.

IN many Parts of *France*, they save the young tender Tops of the Vines, and eat them as *Salleting*, which, they say, is a very delicious one; and as such, is frequently Sold in the Markets.

THEY are always careful to keep their Vineyards clear of all Sorts of Noxious Herbs and Weeds; for the same do very much injure the Vines, by with-drawing that Nourishment for their own Support, which should be appropriated to the others.

THIS is a constant Maxim amongst the *Vignerons* of *Champaign* and *Burgundy*, That they will never enter into their Vine-yards, in *April*, *May*, &c. or whilst there is any Dew upon the Vines in the Morning, but defer working therein 'till the same is exhaled by the Heat of the Sun. And the Reason they give, is this, That should they touch any of the Leaves, or young Fruit whilst the Dew is upon it, whete the same has been touch'd or handl'd, it impresses

presses the Dew thereon by being squeeze'd, which stricks deeper therein, the Heat of the Sun draws the same so violently, that it burns, or rather, Scalds those Places that have been touch'd, to the Prejudice of the Vines. And by frequent Experience also, they find, That if they Enter into their Vine-yards whilst there is either Hail, or a Hoary Frost upon the Ground, all those Vines which are in the least then touch'd, or handled die.

A N Observation not much unlike this, may be taken Notice of in *Peaches, Apricots, &c.* where, if the same is handled upon the Tree, tho' ever so gently, if there be any of the Morning Dew thereon, those *Peaches, Apricots, &c.* shall appear to be spotted and stain'd.

A N O T H E R Instance, stronger than the last mention'd we find in *Melons, Cucumbers, &c.* whereon, if any Water be sprinkled in the Midst of a Sunny Day; or if the Vines thereof are only handled, whilst they are Wet, the Heat of the Sun attracts the same so violently, that the Vines will frequently be burnt off or destroy'd, to the Destruction of the Fruit thereon.

'T I S to a Want of this Observation, great Quantities of fine Fruit, and many promising Plants, are lost and destroy'd, and the Owners know not how to account for the same.

I F you resolve to have your Wine bright, fine, strong, mellow, and of a good Flavour, you must not suffer your Vines to run above two Foot, or at most three Foot in Height, from whence,

whence, mannag'd in this Manner, you may expect about one Hundred and Seventy Gallons, from every Acre of Vines.

THE *High Vines* are to be Cultivated in the like Manner as the other, save with this Difference, That they must be stuck with small Poles, both longer and stronger than the others, in the Manner our *Kentish* People Stick their Hops; those Poles must be about eight or nine Foot long, as well to support the Vines, as to repel the Force of the Winds, which would otherways, be so strong as to tear them Down with its Force, and thereby break and destroy the Vines.

THESE Vines must be ty'd like the others, to the Poles, and not above one, at most two Branches to be allow'd to each Root, all the others must be Prun'd away.

THE Culture, Dressing, Managing, and Maturing one of these *High Vine-yards* is much the same as the *Low* ones; Reason alone, will direct where any Difference is to be observ'd.

THESE *High Vines* will Bear near three Times the Quantity of Grapes, as the *Low* ones; for one Acre of these will produce, three Hundred and Fifty, or Sixty Gallons of Wine; but this Difference is to be observ'd, That this Wine will not be so fine, agreeable, strong, nor mellow, as that made from the *Low Vines*.

HERE it is to be observ'd, That these different Sorts of Vine-yards, proceed from one and

and the same Fruit, viz. the little small black *Muskadine Grape*, and not from different Sorts of Vines, originally Planted therein: So that to turn a Low Vine-yard into a High one, is no other, than to suffer the Vines to run about six or seven Foot high before you Top them. Contrary-wise, if you would turn a High Vine-yard into a Low one, You must cut your Vines quite down to the Ground about *November*, and let them not shoot above two, or at most three Foot high.

THERE are other People, who suffer their Vines to run four or five Feet in Height, but these find their Wines not altogether so hard, as that made from the *High Vines*, neither is it so fine, and mellow as what is produc'd by the *Low ones*.

THIS is a certain Rule, the higher the Vines run, the greater the Quantity of Fruit, and likewise Wine; but the same is weaker in its Kind, and not so pleasant to the Taste, as that which is produc'd from the *Low Vines*:

HERE I shall mention an Observation I have made in several Places amongst the Vineyards, which is, That in the Intervals betwixt the Vines, they will frequently Plant *French Beans* or *Kidney Beans*, that is, if the Vines are planted on the Ridges, they will then Sow a Row or two of *French Beans* in the Furrows: Or, If the Vines are in the Trenches, then a Row or two of *Beans* shall be planted on the Ridges. But observe, That these must be only *Dwarf Beans*, for, should you Sow either the *Common French high Beans*, or *Pease*, the

the same would be prejudicial to your Vineyard, as well by intangling themselves amongst the Vines, as by Shooting up so high, as to obstruct the Warmth of the Sun, which these Dwarfs, not growing more than ten or twelve Inches in Height, never can do.

OTHERS, again, will sowe Salleting, as *Lettice, Spinage, Chervill, Cresses, &c.* in the Intervals of the Trenches, and Furrows. These Rules must be observ'd, in what ever is Sown, or Planted there.

First, **THAT** they be such Things, as take not deep Root in the Earth.

Secondly, **THEY** must not be too great Drawers.

Thirdly, **THEY** must be such as are of different Nature from the Vines, that they do not draw the Juices from the Earth, which should nourish your Vine-yard. And,

Lastly, **SUCH** Herbs, Plants, &c. as will be soon off of the Ground before your Vintage comes on.

BUT to return again to the Vines, I shall likewise observe, That the Wines of *Province*, and *Languedock*, are not so good as those of *Burgundy*, and *Champaign*; neither will they keep so long.

THERE are three Reasons concur, which give the Preference to the last-mention'd Wines, *viz.*

D

First,

First, **THE** Vines generally Planted in *Province* and *Languedock*, is from a larger and whiter Fruit than those of *Burgundy* and *Champaign*.

Secondly, **THAT** the Quantity of Wine may be the larger, the siffer their Grapes to be too ripe, before they gather them; which, indeed, enlarges the Quantity, but destroys the Quality. And,

Thirdly, **THAT** the Soile is not so fit for Vines, for it is a fat, moist, mellow Land, and would be much more agreeable for Corn, or Pasture Land, than for Vine-yards.

ADDING to these Objections, That they suffer their Vines to stand too long in the Vine-yards; for, when a Vine is past its Vigour, which it will be in about fifty Years, (if in a good proper and agreeable Soile) it Annually languishes and decays.

AND as daily Experience shews, That Vines, tho' rais'd from the same Fruit, and with the same Care, are various in their Success, tho' all Planted together, and growing in the same Vine-yard; which may be owing to various Accidents: It would be the most proper Way, to pluck up such as grow faint and languish, as soon as you perceive them to decay, and plant others in the Room of them; so shall you always have your Vine-yard in its full Vigour and perfection: And those who keep large Vine-yards, ought to allot a small Spot of Ground, as a Nursery for keeping of young Plants, to supply the Room of such as decay, from
Time

Time to Time; for, otherways the Vines may languish for several Years, and a Vine-yard be twenty, thirty, or more Years after it begins to decay, before it is quite gone.

HAVING thus Planted your Vine-yard, and furnish'd it with proper Plants; carefully Manur'd your Soile, and Brun'd your Vines, (supposing the same to be Planted with all young Stocks) they will the second Year after they are Planted, (those which are most kindly, especially) Bear in some small Proportion; the third Year, generally, all will Bear Fruit; the fourth, fifth, and sixth Years, they will increase in Quantity; the seventh, and following Years, they will be in their full Perfection; and so continue 'till about the fiftieth Year, about which Time they will Decrease in their Annual Bearing, which, tho' but small at first, will yet be visible to a Curious Observer. Adding to this also, That they will be more subject to Blasts, and Accidents of the Weather, than formerly they were; and the Fruit will be backwarder, as to the Season: So that those Vines, which, whilst young and vigorous, produced their Fruit in *September*, will not, when so Old, yield the same, to the like Degree of Ripeness, untill *October*.

HAVING carefully observ'd the Directions hitherto given, against the Season for gathering the Grapes; you must provide a sufficient Number of Casks, for filling with the Liquor; and your Presses should also be provided in Readiness, which should be erected as near to your Vine-yard as possible, if you intend your Wine to be white, and fine in Imitation of that of *Champaign*.

THE Nature of these Presses, we shall hereafter describe, together with the Reasons why the same should be erected in, or near to the Vineyard; and show, That a great Part of the Excellency of their Wines is owing thereunto.

WHEN you perceive you Grapes to be fit for gathering, which you may judge of, either by the Eye, or by the Taste, or both; you must observe the Methods following, according to the different Sorts of Wine you would make.

First, YOUR Grapes must not be too Green when they are gather'd, if they are, the following Inconveniency will attend the same.

1st. THE Wine will be hard and backwards.

2dly. IT will require much more Labour to Press the same, and the Quantity will be much less than otherways.

3dly. THE Colour of the Wine will not be so fine.

Secondly, THEY must not be over Ripe, for, That will, on the other Hand, be as detrimental. For,

1st. THE Wine will be Sickish and Ropy.

2dly. IT will not keep so long.

3dly. THE Colour will be faint and dull.

THE true Time of gathering the Grapes is, when they are just coming fit for the Tooth, not riper than we gather them in *England*; nay, even not so Ripe as some are, that come into our Markets for Sale.

HOWEVER, As of two Errors, the least is to be prefer'd; It will be most advisable, to gather them rather of the Greenest, than when they are too Ripe; the Defect of their Greeness, may, in Part, with a little Labour, be remedy'd; but that of over Ripeness, is such, there is no correcting the same, all Attempts of that Nature being ineffectual. The Forwarding and accelerating of such Wines as are made from Ripe Fruit, shall be hereafter taught in a proper place.

ABOUT the Middle, or latter End of *September*, the Grapes will be sufficiently Ripe; As the Season of the Years are forwarder or backwarder, they will be fit to gather, a little sooner, or a little later; but when you believe it a fit Season, you must next choose a proper Morning for gathering the same.

I SHALL here pursue the Observations I have diligently made, and repeat the Custom us'd in gathering the Grapes, in *Champaign* and *Burgundy*, since those Wines are allow'd to be preferable to all other Wines in *France*.

IT is possible, it may be here objected, That 'tis needless to describe the Manner of gathering them; That the Case will be all one, whether they are gather'd in the Morning, or in the Afternoon; Whether in a fair, or a foul Day; But let these

Objectors take this for an Answer, That 'tis not so trifling as they suppose; and that Part of the Goodness of the Liquor consist in the gathering the Fruit.

THIS may seem a Paradox, to some Persons, but Demonstration will render the same obvious to the meanest Capacity, which I shall here endeavour to render plain to the Reader, so as not to admit of any Objection.

THE *Champaigners* and *Burgundians* themselves, condemn the Generality of their Neighbours, for their indolent Method and Management, who content themselves, without endeavouring at any Improvement; but plod on in the old accustom'd Way of their Ancestors, without attempting to benefit themselves by the Experience of the more searching Naturalists.

WHEN they judge their Grapes Ripe enough to gather, they wait the Opportunity of a fine, cool, dewy, foggy, misty Morning, without any Sun, if possible; when they diligently prepare themselves for their Vintage, in the following Manner.

THEY begin about five o' Clock in the Morning, or as soon as they perceive it to be Light, if it be a cool, fine Morning, and either the descending Dews, Fogs, or small misty Rain settling upon the Vines, the Grapes will be cover'd with an Azure colour'd Dew, the *Vignerons* or *Laberours* are set to Work, to gather the same as fast as possible; and before the Sun shall be so High, or the Heat so Great as to attract the Dew from off the Grapes; they continue thus gathering, until they perceive

perceive the fine Dew to be almost exhaur'd by the Heat from the Grapes; when they leave off Gathering for that Day, unless it happens to be a gentle, rainy Day, which if it does, They will continue at Work all that Day, or at least, so long as the Rain holds; but if it Rains violently, or but indifferent fast, they then cease their Labour.

THE Reasons for this are many. For,

First, A SMALL, misty Rain, Fogg, or Dew, hanging upon the Grapes, softens and melliorates the Skins.

Secondly, It keeps them Fine and Cool, and thereby prevents the Sun from heating the same.

Thirdly, If the Dew were attracted by the Heat of the Sun from the Grapes, the same would thereby become more inwardly heated, and the Liquor more Ruddy.

Fourthly, Not only the Dew from off the Grapes, but the more Spiritous Part of the Liquor it self would be evaporated and lost.

Fifthly, THE Skins would be more tough, and hard, and the Grapes with more Difficulty Press'd.

FOR the misty Rain, Fogg, or Dew, being upon the Grapes when the same are gather'd, not only preserves the fine, subtille, spiritous Part thereof, but of it self, mellows and increases the Quantity of the Liquor; and likewise adds to the Clearness thereof. For this Moisture upon the Grapes, so softens the outward Husk or Skin, that they almost

almost all turn into Liquor : And this Wine is by Experience found to be much whiter, thinner and better, than if the Grapes were gather'd in the Sun, or at any other Time without such Moisture upon them.

For, when the Sun has heated the Grapes, the Agitation of the Particles occasion'd thereby, is the Reason of the Wine being more red ; and the Quantity is decreas'd by Transpiration ; or, because the Skin's being hardned by the Heat of the Sun, the Grapes are press'd with much more Difficulty.

'Tis also certain, and worthy the choicest Observation, That the same Quantity of Grapes, which if gather'd in a Sunny Morning, without Rain, or Eggs, or Dews upon them, would produce six Hundred Gallons of Wine ; the same, had they been gather'd in a Dewy Morning only, would have produc'd seven Hundred, or seven Hundred and Fifty Gallons of Wine ; or had they been gather'd in a Foggy Morning only, would not have produc'd less than eight Hundred, or eight Hundred and Fifty Gallons of Wine : But if the same had been gather'd in a Foggy Morning, during a small, misty, Shower of Rain, the like Quantity of Grapes, would not have fail'd of producing, at least, nine Hundred Gallons of Wine.

If it be objected, that the Foggs, Dews, or Rains, may indeed augment the Liquor, as it comes from the Press, but that the Quantity of pure Wine drawn from the Grape, is no more than equal to what it would have been had the same been gather'd in a Sunny Day : The following Observation, may confute the Objection.

THAT

THAT an equal Quantity of Grapes gather'd in a dry Day, and press'd against an equal Quantity of the same, gather'd on a Dewy, Rainy, or Foggy Morning, the first Cakes shall be larger in Proportion, as well as considerably heavier, than the latter, tho' press'd with an equal Care and Strength, which evinces the Observation to be just, that the Dew so supples and Melliorates the outward Husks or Skins of the Grapes, that they almost all turn into Wine.

EXPERIENCE has confirm'd these Observations, not only to be just, but the Practice thereof to be equally profitable; and the *Champaigners* are very punctual in the due Performance of the same.

THEY are so careful to gather their Grapes before the Dews or Fogs are exhal'd, that they will employ one Hundred *Vignerons*, Labourers, or Gatherers of Grapes, in a Vine-yard of Twenty Acres, who will run over the same in about three Hours Time, and in that Space, shall gather all that is fit for the cutting.

I MUST not here omit one Common Observation of the *Champaigners*, which is likewise applicable to other Parts of *France*, and *Europe*, and is a strong Confutation of the mistaken Notions of such as assert the Sun to be chiefly necessary in the Production of this desirable Fruit. Which is,

THAT the Vines of *Verreny*, *Sillery*, *Saint Thierry*, *Mailly*, and *Rilley*, &c. are more hard and rough, and much higher Colour'd, than those of *Auvilly*, *Ay*, *Eperney*, *Cumièrs*, *Pierry*, *Flaery*, *Damery*, *Vantevill*, &c. That those of these last Places

Places are much finer and mellow: But 'tis to be observ'd, they will not keep altogether so long as those of the first mention'd Places: However, the more delicious Flavour of those last mention'd Wines, very justly gains them the Preference.

THEY are not, indeed, curious enough to examine into the Reasons thereof, but content themselves with making a just Observation, that it's always so, whether the Season be agreeable or not.

I SHALL endeavour to Account for this, in a Natural Manner, without pretending the Difference, of the Soile, Manure, or Culture, to be the Reason; for an Argument fetch'd from thence, would be Erronious, the Soile, Culture and Management, being the same; and all these Places in the Neighbourhood of each other, viz. in the Province of *Champaign*.

LET it be consider'd, That *Verrény, Sillery, Saint Thierry, Mailly, and Rilly, &c.* lye all upon the Mountainous Parts of the Country, where the Vine-yards are more expos'd to the Sun, than those planted in the Valleys, or on the Banks of the Rivers; that they have consequently less Moisture than the others: I mean, That the Fogs, Dews, and Vapours are not so great upon the Mountains, as in the Valleys; consequently the Grapes must be more heated, and the Particles agitated by the Force of the Sun Beams, to which they are so much expos'd; which naturally causes an Exhalation of the more spiritous Part of the Moisture from the Grape, and leaves the Remainder more rough and hard.

ON the other Hand, *Auvilley, Ay, Epervie, Cumiers, Pierry, Fluery, Damerry, Vantevill, &c.* Lye all upon the Banks of the Rivers, where they have an equal Benefit from the Rains with those upon the Mountains; and as the Fogs and Dews are greater in these Places, than the other, and the Vapours continually arising from the Rivers, with more of the cool refreshing Air, occasion'd by their low Situation, and their Neighbourhood to the Waters; adding to this likewise, That they are not so Subject, to the fiery Exhalations drawn from the Earth, as those upon the Mountains are: The Grapes must consequently have a more refreshing Coolness, by which the fine, subtle, Spiritous Part is continu'd therein; and not evaporated as in those Vine-yards upon the Mountains, which have not so great Assistance of the Waters, to protect them from the Fury of the Sun Beams, Adding to this likewise, That constant Experience shews, That Wines produc'd from these last-mention'd Vine-yards, are not so high Colour'd as the others; which Difference also, is occasion'd by the friendly Moisture, they receive from their Situation.

To confirm my Opinion herein, let it likewise be remember'd, That if the Season proves hotter, and dryer than Common, both the Wines of the Rivers, and those of the Mountains will be more hard and rougher than otherways, and higher colour'd; likewise, more or less, in Proportion to the Extremity of the Season. On the other Hand, Should the Season prove cooler than ordinary, as well the Wines of the Mountains, as the Rivers, will be Softer, Cooler, and Paler in Colour, than they commonly are.

ANOTHER

ANOTHER Observation worthy our Remark, is, That the Vines of *Auvilley, Ay, Eperney, Cumiery, Pierry, Fluery, Damery, Vantevill, &c.* and other Places in the Valleys, and on the Rivers, shall produce their Fruit, fit for the Press, about eighteen or twenty Days before those of *Verrenney, Sillery, Saint Thierry, Mailley, and Rilley, &c.* and other Mountainous Parts, altho' they are more expos'd to the Sun than the others.

As I have hitherto endeavour'd, to Account for the Observations I have laid down, by reasonable Arguments; I shall attempt the like here, by shewing this Backwardness of the Mountain Wines proceeds from this, That the Grapes not being so soften'd, and mellow'd by the Fogs, and Dews, as the others are, and the most Spiritous Part exhal'd by the Force of the Sun Beams, the Skin grows Harder and Tougher, so as to resist its kinder Influence. Whereas, The other Grapes which are continually cherish'd and refresh'd, by the gentle Dews, and Vapours always falling upon them, have their Skins much Softer and Thiner, than the others: Of this any Person may easily convince themselves, by comparing the Skins of Grapes gather'd in the midst of a Summers Day, with the Skins of those gather'd after a small, misly Rain, Dew, or Fog; where the Difference is so visible, as well as the Taste so distinguishable, that it cannot admit of a Denial.

THIS Observation only, might be sufficient to convince any reasonable Person, of the Practicableness of Planting Vine-yards, with Success, here in *England*; seeing 'tis demonstrable the Advantage our Neighbours make thereby, is more owing to their

their Industry, and Knowledge therein, than to any Thing so extraordinary in their Soil, or Climate; The Difference of Latitude, betwixt *Champaign*, *Burgundy*, and other Parts of *France*, and some of the Southern Parts of *England*, being too trifling to admit of any Objection that is not overballanc'd in our Favour, by the Temperateness of our Climate; since from what has been before said, a Vine-yard requires a due Moisture, as well as a warm Sun. Which Observation exposes the Weakness of those Arguments that tend to prove the Impossibility of raising Vine-yards in *England*, since too much Heat, without being properly quallify'd by Rains, Dews, or Fogs, is a Hindrance to the Vine-yards, equal to the Want of the Sun it self, a temperate Climate being the most proper, and always producing the best and pleasantest Wines.

FROM hence we may Account for the Reason why the Wines of *Spain*, *Portugal*, *Port o* *Port*, &c. are so much harder, grosser, &c. than those of *Burgundy*, *Champaign*, &c.

It is allow'd that the *Spanish* and *Port* Wines, &c. are of a stronger Body, because the *Champaigners*, &c. consult the Pleasantness of their Liquor, and how to make it most agreeable to the Palate; that the Fruit may be so gather'd, as to render it stronger, is demonstrable from what has been before insisted upon; for if the same be gather'd in the midst of a sunny Day, the Wine will be much stronger; but then it will loose that agreeable Flavour it would otherwise have, and be much less in Quantity likewise.

THE Want of such kindly refreshing Fogs and Dews, as are before mention'd, occasions the Port Wines to be of a grosser, heavier Body; nor can they otherwise remedy the same, than by suffering the Grapes to hang upon the Vines till they be full Ripe; in which Case, indeed, the Wine will be the pleasanter and mellowier than otherwise; but then they are attended with this Ill-conveniency, that they will not keep long.

HOWEVER 'tis in the Power of any Person, observing the Method before laid down, for gathering their Grapes, to make their Wine Hard or Mellow, Strong or Weak, Red or White, or to observe a Mean therein, as they please.

If you would make what is in *Burgundy* and *Champaign*, call'd an excellent Cuve, or Tub of Wine, you must observe punctually the following Directions.

IT is necessary here to premise, that the natural Wine of *Champaign*; and what they value themselves most upon, is, what they call *Oiel de Perdix*, or of the Colour of the Partridge's Eye, which consist of a Mixture of the first, second, and third Running together; otherwise they distinguish them by the common Names of White Wines, tho' drawn from the Black Grape before mention'd, and are called White Wines, because drawn White from the Grapes.

I HAVE before observ'd, they have lately fall'n into the Method of making Red Wine,
in

in the same Manner the *Burgundians* do, and which they sell for *Burgundy*; but as that is but a late Practice, I do not call that the natural Wine of the Province, because by *Champaign* we are to understand the Wine most commonly made there.

AGAIN the natural Wine of *Burgundy* is Red, notwithstanding they do frequently make a White Wine, in imitation of the *Champaigners*, which they will sometimes sell for *Champaign*, and at other times for white *Burgundy*.

ALL these Wines are made from the same small Black Muscadine Grape, notwithstanding the various Colours of the Liquor; I shall proceed to shew the different Methods of each Province; and begin first with *Champaign*.

To make an excellent Tub of fine mellow Wine, you must have your Press in the midst of your Vine-yard, if it be a large one, or at least very near to it.

HAVING pitch'd upon a proper Morning, as before describ'd, for gathering your Grapes, and got a sufficient Number of Labourers (or *Vignerons*, as they are there called) in readiness, each provided with a Basket and Knife, the one to hold the Bunches, the other to cut them off, let them begin their Work; and in going thro' your Vine-yard, they must not gather all at once; let them only gather those Bunches which appear to be ripest, and most open, passing over all such as are Green, or close Bunches; for the close Bunches never thoroughly ripen.

LET

LET them carefully avoid all dry, rotten, or bursten Grapes, whether occasion'd by the Over-ripeness, or by any other Accident; and let the Stalk of every Bunch be cut as close to the Grapes, as conveniently may be; let them lay their Bunches gently in their Baskets without bruising or pressing each other, and be as expeditious as possible in the gathering thereof; for on that depends the Colour of their Wine.

THOSE Grapes which are too close, or not ripe enough, let them be left on, for a second, third, fourth, or fifth Cuting.

HERE observe; Those Wines made from the first Gathering are the most valluable, and bear a Proportion according to the following Rates.

WHEN the Wine of the first Cuting is worth Six Hundred Livres the Cuve, that of the second Cuting will not sell for more than four Hundred and Fifty Livres, nor that of the third Cuting for above two Hundred and Fifty Livres, and the others in Proportion.

I HAVE before mention'd, that one Hundred Labourers thus employ'd, will in four Hours space run over a Vine-yard of thirty Acres; and may in that time gather sufficient for a Pressing of five or six Hundred Gallons of Wine.

LET the Labourers, as they gather the Grapes, carry them immediately to the Press, without either bruising or heating the Grapes. For this observe as a certain Maxim, that the sooner the Grapes are press'd after gathering, the finer and whiter

whiter the Wine will be; and not only so, but likewise more mellow, will have a more true, grateful, and vinous Flavour, and will also be more in Quantity.

It may possibly be ask'd, why the Wine should be the worse for the Grapes being heated, or bruis'd in the Carriage, or for not being press'd immediately, as soon as gather'd? To which let this Answer suffice, that the heating and bruising the Grapes lets out the most spirituous Parts of the Liquor, and puts the whole into a Ferment, which occasions a Change in the Colour; that the Skins, by lying, grow tougher, and give the Wine a more acid Taste and Flavour; and as the spirituous Part evaporates, the remainder must consequently be less in Quantity than otherwise.

HAVING thus brought your Grapes to the Press, lay them therein gently; then letting the Press fall down thereon, the Weight of the Press alone will force out the Liquor plentifully.

THIS Liquor which thus runs from the Grapes first, without other Violence than the Weight of the Press is by them call'd, *le Vin de Gout*, or, *le Vin de la Abaissement*, and is of a most fine, thin, and lively Body, of a most pleasant Flavour and Relish; has all Things in it to render it exquisitely Pleasant both to Eye and the Palate; appears very sparkling in the Glass, but has not Body enough to keep a long time without Mixture.

E

THERE

THERE are some Persons however will keep small Quantities thereof for Presents, &c. than which there cannot be a more Pleasant or agreeable one.

WHEN the Liquor ceases to run from the Press, they raise the same immediately, and with Steel Shovels, purposely made for these Uses, they pare off the Sides of the Grape Cake, and throwing up again, together with all the loose Grapes which have been scatter'd, or crush'd over by the Force of the Press, let the Press down again thereon; and then screw the same down with great Force and Strength, which occasions the Liquor to run more plentifully than before.

THIS Wine, thus drawn at the second Pressing, is call'd, The Wine of the *First Cutting*, because 'tis the first time the Grapes have been thrown up by the Shovel.

THIS Wine will be also of a very fine Colour and Flavour, little inferiour to the other; but in this, indeed, preferable, in that it has a stronger Body, and will keep a considerable time longer than the first.

WHEN they perceive the Liquor begins to cease running, they unscrew the Press again; and cutting the Cake all to Pieces with their Steel Shovels before mention'd, throw the same into the Press, and letting it down again thereon, they press it as violently as they can.

THE Wine drawn at this Pressing, is called, the Wine of the second Cutting.

AND

AND this Wine shall be much more in Quantity than either of the two former Cuttings. The Reason why the Quantity drawn from the Grapes at this Cutting is larger than before, proceeds from this Reason, that the Grapes having been bruised by the two former Pressings, are not now so apt to fly from under the Press as at first they were, when the same is let down upon them.

THIS Wine of the second Cutting is an extraordinary good, fine, and clear Wine, and of the Colour the *French* call *Oeil de Perdrix*, and will, if it be kept by itself without any Mixture, be a neat, fine, sound Wine, of an extraordinary good Flavour, and fit for Exportation; it is of a sound, strong Body, fit for keeping, and will continue good four or five Years.

WHEN you see the Liquor ceases to run pretty plentifully, unscrew your Press, and with the Steel Shovels cut the Grape Cake all to Pieces; then throw up the same again as before, and press it over-again, you will find it will yet yield a considerable Quantity of Liquor.

THIS is called Wine of the third Cutting, and is of a strong Body, but higher Colour'd than any of the former.

THE Quantity will not now be so great as before, but the Wine will be very potable, and will keep four or five Years.

THIS done, take out your Cake, cut it in Pieces again as before, for another Pressing, which is called Wine of the fourth Cutting, and will be of a ruddy Colour, indifferent strong of Body, but harder, yet will keep for some time; and if it has a little Age, will be a tollerable Wine to drink without any Mixture.

YOU may proceed in this Manner to cut and press your Cakes as long as you find they will yield any Moisture; after which remove your Cakes from your Press, that you may be at Liberty to make use thereof upon Occasion.

YOU will find upon tryal, you may press your Cakes about five or six Times over, observing before each Pressing to cut them all to Pieces that the Liquor may the freer run therefrom.

WHEN these Cakes have been so often press'd, that they will yield no more Liquor, they will be almost as hard as a Stone, the Force of the Press is so great.

THE Wine *de Gout*, or *Vin de la Abaissement*, will be of the most spirituous, fine, and exquisite Body, Taft, and Flavour; such as are willing to preserve any Part thereof, may, in Bottles, keep the same for some little time, but it is too fine and subtle to be kept for any Continuance, neither will it bear Exportation.

THE Wine of the second Running, or Wine of the first Cutting will be more in Quantity than the other; and is also exquisitely fine both

as to Taſt and Colour. The Body will be ſtronger, and if preserv'd by itſelf, will keep longer than the firſt; for whereas that will not keep over the firſt Year, this will keep till the ſecond. The Quantity drawn at this Preſſing will be conſiderable more than at the firſt.

THE Wine of the third Preſſing, called the Wine of the ſecond Cutting, will be of the ſtrongeſt Body, is of a deeper Colour of an extraordinary fine Flavour, and will keep, if rightly managed, until the fourth, fifth, or ſixth Year.

THE Quantity now drawn at this Preſſing, will be more than at either the firſt or ſecond, as is before mention'd; and this Wine, without any Mixture is frequently transported to foreign Countries.

THE Wine of the fourth Preſſing called the Wine of the third Cutting, will not be ſo much in Quantity as the laſt, it will be of a deeper Colour, and a rougher Taſt and Flavour, yet is nevertheless a good ſtrong body'd Wine, and agreeable enough to the Taſt.

THE Wine of the fifth Preſſing, called the Wine of the fourth Cutting, will be ſtill leſs in Quantity, and deeper Colour'd, than the laſt mention'd, and the Taſt rougher; it is however tollerably good, and will keep about three Years, if without any Mixture.

THE Wine of the ſixth Preſſing, called the Wine of the fifth Cutting, is leaſt in Quantity of any of the others; the Colour almoſt Red,
E 3 and

and the Taſt will be more rough and hard than any of the before mention'd; this however makes what they call *le Vin de Burru*, and what in *Champaign* they allow for their Families or Servants, as we do Beer in *England*.

IF they draw a ſixth Running, they mix it with the laſt mention'd Wine, and together make *Le vin de Burru* for common Uſe in their Families.

ALL theſe Wines will at their Running from the Preſs appear to be a little Colour'd; but the Colour decreaſes with ſtanding, and the fine Wines will grow perfectly White.

ALTHO' theſe Wines are White (I mean thoſe of the firſt and ſecond Preſſing) they are in *Champaign* called Grey Wines, by reaſon of their being drawn from the Black Grape.

WHEN you have finiſhed the preſſing your Grapes, and have drawn off all the Wines into ſeveral Tubs or Veſſels, you may mix them up in the following Manner.

IF you mix the Wine *de Gout* with that of the firſt, ſecond, third, fourth, and fifth Cutting, they will be a little Colour'd, which makes what is called in *Champaign* *Oeil de Perdrix*, or the *Partridges-Eye*, and is ſuch as we have here in *England*, for the beſt *Champaign*.

BUT that which is generally tranſported from *France* is the Wines of the third, fourth, and fifth Cutting mix'd together, which is an extraordinary

nary good and pleasant Wine, especially when about a Year old.

SOMETIMES they will mix that of the second, third, and fourth Cutting together; and this is what is reckon'd Extraordinary.

THEY never export the Wine *de Gout*, or *le Vin de l'Abaissement* alone; nor that with the first and second Cutting only; for these Wines would be too Rich and Fine.

ANOTHER Reason for not exporting the *Vin l'Abaissement* alone, or with the first, or first and second Cutting only, is, that the Body is so thin and spirituous, that it would not bear Transportation, but by the violent Motion of the Sea would be thrown into such a Fermentation, that it would soon turn Eagre and Sower.

IF the Wine of the fourth Cutting should be high Colour'd, as in some Years it will, if the Weather has prov'd Hot and Dry; then they mix it with that of the fifth, sixth, and seventh Cutting; and this is called the Wine of the Press, which will be of a good sound Body, but higher Colour'd, and more rough than ordinary.

THE best way to put up the Wines, and what is most frequently observ'd, is to put up the Wine *l'Abaissement* with that of the first and second Cutting; and this is called fine Wine.

THEN that of the third, fourth, and fifth Cutting together, which is called the *Oeil de Perdrix*, and sometimes Wine of the Cuttings.

AND that of the sixth and seventh Cutting together, which is called *le Vin de Burru*, or Wine of the Press.

THEY most commonly mix their Wines, as before, and afterwards, against they expose them to Sale, put up one fourth Part of fine Wines, two fourth Parts of the Wine of the Cuttings, and one Fourth Part of the Wine of the Press.

OBSERVE, that the quicker and more expeditious they are in pressing their Grapes, the whiter the Wine will be.

HAVING thus describ'd the Manner of making the White Wines of *Champaign*, it will be proper here to take notice, how the Red Wines are made in *Burgundy*, that the Reader may be convinc'd, the Colour is only acquired by the Method of managing the same, and not by any different Qualities in the Grapes.

WHEN the *Burgundians* find their Grapes to be ripe and fit for gathering, they take the Opportunity of a small rainy, misty, foggy, or dewey Morning, for the Reasons before given, by the *Champaigners*, for increasing the Quantity of the Liquor, and meliorating the Grapes.

THEY are curious in gathering the ripest, and best of the Grapes, rejecting those that are rotten,

not upon account of altering the Colour, but to prevent giving any ill Flavour, Scent, or Taste to the Wine.

THESE they gather into Baskets, as before directed; and tho' there is not that Necessity (in gathering them for Red Wine) to be so Expeditionous, yet they will not gather them when the Sun has exhale'd the Dews, Fogs, or Moistures off of the Grapes; because by melliorating the Skins of the Grapes, the Wine is of a softer Taste, and a more agreeable Relish and Flavour.

HAVING thus gather'd their Grapes, they throw them all into large Tubs, or Cuves, and beat them with Sticks, which mash or bruise them all in Pieces, or putting little Children into the Tubs to tread the Grapes to Pieces, who by running about in these large Tubs, as the Grapes are throwing in, tread them under their Feet, which more effectually bruises and heats them, than 'tis possible to do by beating with Sticks or Battoons.

HAVING thus trod the Grapes till the Tub is full, and the Liquor floating above them, they leave off that Exercise, and let the Grapes lye in the Liquor for the Space of about forty eight Hours, during which time they will frequently stir up the same, as well the Grapes as the Liquor, which puts the whole into a ferment, and the violent Agitation encreases the Colour, by attracting the more acid and astringent Particles from the Skins and Stones of the Grapes.

WHEN

WHEN they have thus continued in their Liquor about two Days, in which time the same will be of a full bright and deep Red Colour, they then proceed to press them in the Manner, as before describ'd, by pressing them, cutting, and pressing again, as long as any Liquor will flow from the same.

THAT Liquor which may be taken from the Grapes, after treading, without pressing, is the best and most Spirituous; that which is drawn from the Grapes by pressing is of different Degrees in Goodness according to the Cuttings.

THE Liquor drawn of from the Tubs of trodden Grapes may be mix'd with the Wine of the first, second, third, and fourth Cuttings. Sometimes they will mix that Liquor with that of the fifth and sixth Cuttings, preserving that of the first, second, third, and fourth Pressing by itself; however in this, as the Mixture is Discretionary, so every Person must consult their Interest or Inclination, as to what Strength and Goodness they would have their Wines of, and may mix them accordingly.

HERE observe, that the Wine drawn from the Tub, without pressing, mix'd with that of the fifth, sixth, and seventh Cutting will be equal in Goodness, with that of the first, second, third, and fourth Pressing together.

As to the Method of making White Wine in *Burgundy*, and Red Wine in *Champaign*, they are much the same, with what has been before describ'd

discrib'd, therefore needless to repeat the same over again.

BUT to return to the Description of the *Champaigners* Method of making their Wine, I should before have observ'd, that those Persons who have large Vine-yards generally purchase Presses of their own, because they having them at Hand to erect at, or near to their Vine-yards, is of so great Advantage in the Fineness of their Wines.

HOWEVER there are publick Presses, or Mills for pressing of Grapes, for the Convenience of those who have but small Vine-yards, and cannot bear the Expence of purchasing Mills or Presses themselves.

THESE Persons lying under the Disadvantage of being necessitated to send their Grapes to the publick Mills to be press'd, to prevent the Illconveniency of having their Grapes heated in the Carriage, they provide Barrels, with false Bottoms, or Lids; and when they gather their Grapes, they lay them gently into the Barrel till the Bottom is cover'd all over, then they lay in a false Lid, which is so fix'd to the Sides of the Barrel as not to touch the Grapes; then upon that they lay again a fresh Parcel of Grapes, and so till the Barrels are full; yet notwithstanding all their Precaution, they cannot prevent their heating; for as they are frequently oblig'd to carry them two or three Leagues to the Mills to be press'd, they must send them in Carts, the shaking whereof heats and bruises the same, so as to occasion the Liquor drawn therefrom

therefrom to be higher Coloured than it otherwise would.

'Tis the Illconveniency of this, has introduced the Custom of immitating the Red *Burgundy* Wines in *Champaign*, which has been practis'd for about nine or ten Years past, with very good Success, to the great Advantage of the Inhabitants, which they do in the Manner before describ'd.

WHEN you perceive you have Grapes ripe enough for a second Cutting, you are to chuse a proper Morning, as has been before directed, and proceed as formerly in the gathering and pressing the same. However observe, that the Wine drawn from the first Gathering will be much preferable to this of the second.

AGAIN, about the latter End of *October*, or in the Beginning of *November* is the last Gathering; at which time they chuse a fine, cool, foggy Morning, when there is a little Frost upon the Vines, at which time they gather all the Grapes that are remaining upon the Vines, whether the same be White, Black, or Greenish; as there will even then be some Grapes which are not fully ripe.

THEY are not so careful in the gathering of these Grapes, as in the former Cuttings, not minding so much the Colour of the Wine; therefore if there be any rotten or decay'd Grapes, they do not stand to pick them out, but throw them all into the Press promiscuously.

FROM

FROM these, by pressing and cutting, as before directed, they draw a Wine, called *un vin Bourru*. This Wine, after it has had a reasonable time for its Fermentation, will be a tolerable good, strong body'd Wine, and clear enough.

WHEN your Liquor is taken from the Press, you must have your Casks in readiness to put up the same. Your White Wines should be put into new Casks to prevent their colouring the Wines; but the Red Wines (if you make any) and the Wine *Bourru* may be put into old Casks, without any prejudice, provided they are Sweet and Clean.

SOME little time before they put up their Wines, the *Burgundians* and *Champaigners* will rinse out all their Casks with fair Water, wherein they have infus'd some Peach Leaves, or Flowers, which, they say, gives an agreeable and delicious Flavour to those Wines, which shall be afterwards put therein.

As these Wines drawn from the last Gathering of the Grapes cannot be so perfect as the others, occasion'd by the Grapes not being ripe enough when they were gather'd; they have recourse to the following Method to accelerate the ripening thereof, which is what I have before mentioned, and promised to speak to in its proper Place.

Also, if the Wine be of a small Body, they have recourse to the same Method; which is only when the Wines have been put in the
Casks

Casks about three Weeks, to roll them up and down therein for sometime, five or six times a Day for four or five Days successively; then two or three times a Day for three or four Days afterwards; once a Day for about four Days; then continue rolling them once in a Day for about a Week; then once in three Days, or once in four or five Days: And let the rolling, in this Manner (if your Grapes were gather'd very Green) be continued, in the whole, about the space of five or six Weeks.

BUT this rolling of the Casks must be Discretionary; for if the Grapes were tollerably ripe when they were gather'd, very little rolling will serve them, once in four or five Days for the space of a Month or six Weeks will be sufficient.

THIS rolling of the Liquor in the Casks will lighten the Fermentation, by the Agitation of its Parts; and the violent Motion thereof heats the Wine, which causes it to purify and purge itself; and accellerates the Ripening thereof, much better than any other Manner can do.

BESIDES, the mixing and shaking it together with its Lees, both sweetens and strengthens the same; and renders it much more fit and pleasant to the Palate.

THE Cakes, after they have been press'd as dry as possible, in *Champaign* they sell them to the Country People, who, by Distillation, draw therefrom a Brandy, called Brandy of *Aixne*; which is a tollerable good Brandy, but not so good

good as the *Coniac*, because the Cakes have been too much press'd.

WHEN your Wines have been put in the Casks some few Days, they will ferment, which you may soon perceive, if you are curious enough to take notice thereof.

THE finest Wine, called *le Vin de Gout*, will ferment immediately, if you have (as you should be careful to do) kept some of it by itself, without mixing it with any other.

YOU must, when you perceive it to ferment, take some of the Froth which works therefrom, in the Nature of Yeast, and put a little of it into each of the Casks of the other Wines, which do not ferment, especially into those called the Wines of the Press, or those of the fifth, sixth Cutting, &c. which will hasten the Fermentation thereof.

THE finest Wines will ferment first, next those of the Cuttings; and lastly those of the Press, or those of the last Cuttings.

THESE Wines will continue their Fermentation for the space of about ten or twelve Days, or sometime longer, according to the Sorts of the Wine, and Seasons of the Year.

THEY have a Custom in *Alsace*, and upon the *Mosell*, that if their Grapes are gather'd too Green, as upon the *Mosell*, they never come to so full a Maturity, that when they have press'd their Grapes, and put their Liquor into proper Casks, and plac'd them in their Cellers, or Store-houses,

houses, in order to forward the Wines, to take off the Eagerness, and accelerate their Ripening. They have Iron Stoves in their Cellars where they continually keep a Fire burning, which by rarifying and heating, the Air ripens and melliorates the Wines, and renders them much more palatable and agreeable than they would otherwise be.

WHILST these Wines are upon the ferment, the Bung of each Cask must be left open, or only cover'd with a thin Cloth to prevent any Dirt falling into the same, which must be laid hollow, so that the Froth occasion'd by the Fermentation may have Liberty to work off.

WHEN you perceive the Fermentation to be pretty well over, which you will see by the Froth ceasing to rise so fast as before, you may then close down your Bung, first filling up your Vessel with Liquor within about two Inches of the Top; then you must open the Vent-hole, and leave it so, to carry off any thing that may be thrown up by the Fermentations not being quite ceased.

THIS Custom of filling up your Casks to within two Inches of the Vent-hole once in every two Days, for the space of about ten Days, must be observ'd; for the Fermentation will continue a considerable time, altho' in a lesser Degree; and if your Casks are not kept so full as that any Foulness thrown up by the Fermentation, may be carry'd off at the Vent-hole, it will fall back again into the Wine, and occasion it to be foul and muddy.

HAVING

HAVING thus continued to fill up your Casks to two Inches, for about ten or twelve Days, you must afterwards fill them to within one Inch of the Vent-hole, once in five or six Days, and continue so to do, for the space of a Month, after which, once in fifteen Days will be sufficient, for the space of about three Months.

NOTWITHSTANDING the Fermentation will be over, long before this time last mention'd; you must yet observe to fill up all your Casks once a Month, so long as they continue in your Cellar, though it be for several Years; for you must consider, that the Wines will insensibly waft in the Casks, and if they are not kept continually fill'd up, will grow flat and heavy.

I need not inform you, that you must stop the Vent-holes of your Casks, when the Fermentation is over; your own discretion will be sufficient to direct you in that, as your Observation will be to Instruct you, when it is a proper time.

IN *Champaign*, and *Burgundy*, they carefully observe, to move their Wines twice a Year constantly; to which purpose, the Dealers therein, have Store-houses both above and under Ground.

ABOUT *April*, when they find the Warm Influence of the approaching Season, to prevent their Wines from being effected thereby, they lay them down in their Cellars, or Store-houses under Ground; as being much cooler than those above Ground, where they suffer them to continue, untill about *November* following, when

the coldness of the Season rendering their Warehouses above Ground, much cooler then those under-neath; they draw up their Wines and deposite them in the Warehouses above, where they continue until about the *April* ensuing, and this Custom they always observe.

THE Reason for the same, is, that in the Winter time, Experience will convince every Person, that the Warehouses above Ground, being more expos'd to the Rigour of the Season, and more open to the Air, must necessarily be much cooler than the Cellars under Ground; so in the Summer time the Cellars are more cool than the Warehouses above Ground, because the Air being heated by the Sun Beams has a much freer Passage into them than the others.

FOR observe this as a certain Rule, that the cooler your Wines are kept, the longer they will last, and the more grateful they will be to the Palate; but let them be kept as near as possible in the same Degree of Temperature.

IT may here be objected, that 'tis customary in cool Weather to set Bottles of Wine before the Fire e'er it is drunk, which gives it a more sparkling Colour in the Glass, and renders it more agreeable to the Palate.

BUT this will prove but a very weak Objection; for I am hear to direct the keeping, and not the drinking of Wine.

THE Coldness of the Weather, which keeps the Body and spirituous Parts of the Wine from evaporating, preserves the Strength and Goodness thereof;

thereof; but when it comes to be heated, whether by the natural Heat of the Weather, or by any artificial Means, the Particles are put into Agitation, which, if they work moderately, render the same more delightful to the Eye, as well as more grateful to the Palate; but if the same be violent, they are immediately thrown into Confusion, and evaporated.

FOR frequent Experience demonstrates this, as an undeniable Truth, that the greater the Agitation, the sooner shall the spirituous Parts be exhaled and lost.

AND if Wine be kept too warm, it soon grows Eagre and Sower; whereas the keeping it cool will not admit of any Objection.

HOWEVER these Wines being thus made, as herein directed, when the Fermentation is over, which will be in about three Weeks time, lay them up in your Warehouses, or in your Cellars; if the same be not too hot, where when they have lain for some time, that you think they are thoroughly settled, you must draw them off into other Casks.

FOR this observe, that if your Wines are suffer'd to lye upon the Lees, they will soon grow Flat and Sower; to prevent which they must be shifted several times.

ABOUT the Middle of *December*, you may draw them off from the Lees into fresh Casks, for the first time; after which, see that your Casks are filled up, and then let them lye so, as they may not be shak'd, nor disturb'd, until

the Middle of *February*, at which time draw them off again a second time, into other Casks; observing you leave them quite filled up, and so let them lye until the latter End of *March*, at which time, it will be proper to shift them again; the third Time also in *April*, when the Approaching Season, requiring them to be laid into the Cellars, for the conveniency of the Coolness, they ought to be again shifted.

BUT those Persons who pretend to be the most Curious in the Making and Managing their Wines, and who indeed are generally allow'd to have the best Sort, are not content with Drawing them off only, as before directed, but likewise observe to Shift the same, every time they remove them from their Warehouses to their Cellars, and from their Cellars, up to their Warehouses, so that in four Years time, they will shift their Wines twelve or thirteen Times; and their Wines are by Experience, found to Exceed those of others, which are not so carefully managed.

FOR this shifting the Wines, renders them much more brisk, lively, and sparkling, then they otherwise would be, by reason they are drawn off from the foulness of the Lees, and Sediment, which their long lying in the Cask produces.

EXPERIENCE has Confirm'd this, as an infallible Maxim, that the Wine by long standing, produces a muddy Dreg or Sediment, which gives the Liquor a heavy, faint Look and Colour; and not only so, but likewise deminishes and abates the Strength and Vigour thereof; causing it to look more thick, dull, and faint in the Glass, and to be more weak, hot, and insipid to the Palate.

To render their Wines more fine and agreeable to the Eye, and the Palate, they have recourse to the several following Methods.

AGAINST the time they intend first to draw them off, they take some fine Isinglass, about the Quantity of an Ounce to every fifty Gallons of Wine; and first beating the same well with a Hammer, infuse it in White Wine or Brandy until it be fully dissolv'd, or the Dissolution may be hasten'd by gently warming the same over a slow Fire, which would not otherwise be done in less than two or three Days.

WHEN they find the Isinglass to be fully dissolv'd, they strain the same thro' a fine Sieve, to clear it from any Foulness or Dirt, which may chance to be therein, and about a Week or ten Days before the Wines are shifted, opening the Bung, pour in the Liquor, in which the Isinglass has been dissolv'd, then with a strong Truncheon Staff which they keep on purpose for this Use; they stir the Wine in the Cask very well, for about the space of five or six Minutes, observing not to put the Stick, where-with they stir the same, to the Bottom of the Cask, but only about two Thirds of the Way down, because they will move the Sediment at the Bottom of the Cask as little as possible.

THIS stirring and mixing the Wines in the Cask, with the Liquor in which the Isinglass has been dissolv'd, puts the whole into a ferment, and incorporates them together, whereby the glutinous Particles of the Isinglass, seizing any Foulness or other Filth that may accidentally be

in the Liquor incorporates them together, and by its Weight causes it to descend to the Bottom.

THIS Isinglass generally has its effect upon the Wine in about six or seven Days, should it happen either thro' the Coldness of the Weather, as if that be violent, it will be an Obstruction thereto, or from any other accidental Impediment that the Liquor in that time should not be fine enough, according to your Expectation, you may repeat the Experiment, but let the Quantity of Isinglass then put in, be but one Moiety of what was before.

IT is not Material in what Quantity of Liquor you dissolve your Isinglass, before you put it into your Cask; a Quart is generally allow'd, whether it be Wine or Brandy, to each Ounce of Isinglass as sufficient, tho' whether the same be more or less, is not Material.

As soon as they find their Wines to be clear, they draw them off into fresh and clean Barrels, &c.

THEY will with three or four fresh Barrels, shift three or four Hundred, or any larger Quantity, for as soon as they have drawn of one, by emptying the Lees, Dregs, or Sediments, and immediately pouring out the same, it will be presently fit for Use again.

THIS Method they observe, so long as their Wines continue in the Casks; When they intend to bottle them off, they chuse to do it on a frosty Day, if the Season of the Year will permit, if
not

not on a cool and dry one; for Experience has taught them to make this Observation, that where the Wines are drawn off, either on a hot Day, or on a cold and moist, or rainy Day, the Wines will not be so fine, nor so brisk and sparkling in the Glass.

FOR if on a hot Day, the Heat occasions the Wine to ferment, and thereby moves the Lees and Sediment, which before lay at the Bottom of the Casks, which mixing itself amongst the Wines, causes it to be much thicker and fouler.

THE same may be said, if it be a heavy, moist, or rainy Day, the unequal Pressure of Air being so condens'd, lies heavier upon the Wine, and occasions an Agitation of its Particles, which puts it into a Fermentation, and stirs up the Lees thereof, to the fouling and disordering the Whole.

THE Weather therefore ought to be consulted at the shifting of the Wines into fresh Casks, more especially at the bottling off of the same, it being to be suppos'd, when they are once drawn off into Bottles, they are not any more intended to be shifted.

THERE is however, an Art observ'd in *Champaign* and *Burgundy*, for keeping the Wine in Bottles; which, whether known amongst our Vintners and Wine-Coopers, I cannot determine, but for the Satisfaction of those Gentlemen who are ignorant thereof, I will before I conclude describe the same.

IN order to give a more lively, brisk, and sparkling Colour to their Wines, they have recourse to the following Method.

WHEN they first shift their Wines into fresh Casks, they open the Bung of the Cask, intended to be emptied, and having in Readiness some Linnen Cloth, they take a Bit about four Inches long, and an Inch broad, and dipping it all over in melted Brimstone; then lighting one End thereof, put it into the Bung-hole, where they let it hang, stoping the Bung close down again, until the same be burnt quite out.

THEY will likewise do the same again at the second Shifting; but the Quantity of Brimstone must not then be so great as before, a Bit about half an Inch broad and four Inches long, will be sufficient.

THE Reason of this, is, that the burning the Brimstone, within the Cask, adds to the Brightness of the Wine, and makes it much more clear, transparent, and sparkling.

HOWEVER they are Cautious not to burn too much therein, because, if they do, the Brimstone will not only occasion the Wine to smell, but will give it a disagreeable Taste likewise.

THE *French* are naturally fond of frothy Wine, esteeming that to be the best, nor are some other People behind them in their Opinion, believing the same to be altogether Natural, and merely the Effect of the Goodness of the Wines.

THEY

THEY indeed seem to differ in their Opinions, as to the Occasion of their Frothiness; some hold that it proceeds from the frequent shifting the Wines, and drawing them off from the Lees.

OTHERS will have it to proceed from the Grapes, not being so thoroughly ripe when gather'd.

AND again, there are not wanting those who impute it altogether to the Moon; alledging, it proceeds not from the Vine but the Season of the Year, when the same was bottled.

WHICH of these Opinions are the right, I will not determine, or if there may not be some Colour of Reason for each of them.

As to the First, 'tis beyond Contradiction, Experience having so long confirm'd the same, that the Wine being drawn off from the Lees, will be much more bright and sparkling; or as the *French* call it, more Brilliant.

As to the Second, of its being occasion'd by the Greenness of the Grapes when gather'd, it may in some Measure be true, from this Reason, as the Wine drawn from them, was not at first so potable as the other, it may consequently retain its astringent Quality longer, and require a greater Degree of Fermentation, yet with proper Age, and the Helps for accelerating the Ripening thereof, before taken Notice of, it is better able to retain the Soundness of its Body, the Spirituous parts not being so much seperated,
are

are not so Volatill and ready to fly away and Evaporate, as they are in those Wines which are made from full ripe Grapes.

THEREFORE every Motion, especially if any thing violent, must occasion a Fermentation in a greater or lesser Degree; and these Wines which have the most Spirituous parts remaining in them, must be allow'd to be the most ready to Ferment, upon the Particles, being put into Agitation; and a more violent Agitation cannot be, than that of pouring the Wine from the Bottle or Pot into the Glass, for though the Motion of the Wine, to the Mouth of the Bottle may be almost insensible, (which is to prevent the raising of any Sediment from the bottom thereof) yet the fall into the Glass is violent.

THOSE who would have the Effects to be caused by the Moon only, pretend to found their Opinions upon Observations, which they will urge they have constantly made, and will tell us, that if the Wine be Bottled off from the Casks, about the beginning of *March, Old Style*, the same will infallibly prove Frothy; but they must continue in the Bottles in a cool Cellar, the space of six Weeks or two Months at least, before they will be fit to drink.

THEY say also they have made the same Observation, if the Wines be Bottled off, about the first, second, third, or fourth of *September*, still it will have the same Effect.

BUT how this may be said, to be the Effects of the Moon, I am at a loss to determine, because the Moon is not always in the same Position

tion on the first, second, third, or fourth Days of *September*, nor on the same Days in *March*, but according to the various Years, is sometimes New Moon on those Days, and at other times Full Moon, &c.

HOWEVER *Bacchus* may have the Patronage of the Vine assign'd him; I do not remember that ever *Cynthia*, assumed any Governance over that Plant. They might with a greater pretence of Reason, impute it to the Winds, which generally sit in about those times, which by agitating the Air, put the Wines upon a Fermentation, adding to that, that in *March*, the Vines are then shooting, and in *September*, the Grapes are then gathering; which if there be any sympathy betwixt them, may with more reason be judg'd to be the occasion of, and the cause of their Frothiness if Bottled at those times.

HOWEVER where all these Three concur together, the Reasons may be much stranger, and perhaps, such as will try the Experiment, may find the Event answer their Expectation, or at least, let the Effect proceed from which of the three Causes soever, as the other are Observations proper to be follow'd, they assist and promote the Accelerating, and Ripening thereof.

FOR 'tis observ'd, that these Wines are not only frothy, but likewise more mellow, brisk, and pleasant in Taste, then the others.

THE demand for frothy Wines however, has occasion'd the Dealers therein, to endeavour by Art to supply the want thereof; that is to contrive, and find out Experiments, to make their
Wines

Wines still more frothy then they would naturally be.

To which purpose, they have recourse to fundry sort of Drugs, and Chymical Preparations to effect the same, *viz.* by mixing Allum, Spirit of Wine, and Pidgeons Dung therein, which 'tis certain do in some measure answer the End.

BUT this they will not attempt, till they expect a Demand for the same, because by the infusion of these things, and other Drugs which they mix amongst the Wines, the Fermentation will be carry'd to too great a height, when after some time, the Wines will fall flat and heavy, and then will become dead and sower.

THUS it is demonstrable, that even in those Countries where the Wines are made, there are various Arts and Adulterations practiced by the Dealers therein, to help and remedy any defect that may happen thereto.

THE complaint thereof is not always just, that the Wines are spoil'd and adulterated, by the Vintners, and Wine Coopers here; what they do, is many times a work of Necessity, when they find them turning eagre and sower, on the one Hand, or to sweet and rosey on the other; which is many times occasion'd from a mixture of such other matters, as have been made use of Originally, either to heighten and enliven the Colour, or to facilitate, and accelerate the Ripening thereof.

HERE take notice, that those Wines of the Mountains before mention'd, will keep very well in

in Casks for five or six Years, before you Bottle them off, if you are enclin'd to keep them so long; whereas those of the Valleys and Rivers, should not be kept at most above three, or betwixt three and four Years before they are Bottled; but when Bottled, will keep equally with the other, if the Corks be sound and well stop'd

YOU must not be surpris'd to find your Wines work, long after they are put up into the Casks; whether the same lye in the Cellars, or in the Warehouse, for take notice, they will be Effected by the different Seasons, and the various impressions of the Air.

YOUR Wine will frequently vary in its Taste, as you will find by Experience; and you shall have New Wine in the Months of *January*, and *February* next, after they were made, which shall be pleasant and agreeable to the Palate, and then fit to Drink; yet in the Months of *March*, and *April*, next following, you shall find the same Wines to be grown tart, eagre, and sover, and very unpleasant to the Taste, which proceeds from the Sympathy betwixt the Wines though in the Casks, and the Vines, which are then shooting, which occasions the Wine to agitate and Ferment the more.

BUT in *June* or *July*, the Vines having done shooting, and the Fruit being then Set, and hastening to its Maturity, the same Wines shall be again found to be perfectly made; of a good strong and deep Body, and a pleasant Flavour and Taste; whereas in the latter end of *August*, and the Month of *September* next following, they will again be very hard and rough.

T H O S E

THOSE Wines which I have here distinguish-
ed, by calling them Wines of the Rivers, by
reason of the Vine-yards which produce them,
lying upon the Banks thereof, will vary thus in
their Taft for the first Year, after which a nice
Palate may distinguish some small alteration in
the Taft and Flavour the second Year; but after
the second Year, the same shall be insensible.

THOSE Wines which I have also call'd Wines
of the Mountains, for the reasons before given,
will vary thus in their Taft visibly, for two or
three Years, after which the impresson of the
Weather, will be almost imperceivable.

THIS Observation also will serve to evince,
that 'tis not the Warmest Climate, which always
produces the best Wines.

THEY always observe to fine their Wines
down, in the same manner before directed, about
ten Days before they Bottle of the same.

IN the Bottling whereof, they are very exact
and careful to observe this Method.

HAVING a sufficient number of Bottles in
readiness, to Bottle off the quantity of Wine in-
tended, they carefully observe to fill each Bottle
more than half way above the Neck, yet not so
as to touch the Cork.

WHEN they have filled all their Bottles, and
carefully Cork'd the same down, they strew the
Floor of the Cellar, where they intend to set
them, with Sand about three Inches thick; and then

then lay their Bottles slanting thereon, and not set upright.

THIS they say will preserve the Wines, much better than the other way of setting them upright, for it prevents any Air from passing to the Wine through the pores of the Cork, which if it did, would flat and deaden the same; so it likewise prevents the Spirituous part of the Liquor, from Exhaling and Evaporating thereout.

THIS is some times attended with Accidents, where the Corks are not sound, or any ways damaged, there the same will start out of the Bottles.

To remedy which, some Persons not only Wire down their Corks as they Bottle of the Wine, to keep them from starting, but likewise have in readiness a Pot of Rozen and Pitch mixt together, which melting over a gentle Fire, when they have Wired down the Corks, they dip the Mouth of the Bottle therein, about a quarter of an Inch.

THE Wiering down of the Corks, infallibly keeps them from starting, and the dipping in the melted Rozen, &c. stops up all the Pores, so as to prevent the admission of any Air, or the Exhaling the Spirituous part of the Wine.

THERE are others, who when they have secur'd their Bottles in the manner before directed; instead of placing them in Sand, have Wells in their Cellars purposely made for this use, where they place their Bottles, till they have occasion to make use thereof.

THIS

THIS will keep them much cooler than the other Way, and renders the Wine more brisk, and sparkling in the Glafs, as well as more cool and grateful to the Palate.

IN some Years (if the Grapes were over ripe before they were gather'd) the Wine, tho' in Bottles, and kept in the coolest Cellars, will grow thick and ropey, and tast sickly and faint, so that it will not be fit to drink; however, it will in time grow thin again.

BUT when it is so, the most proper Way is, to remove all the Bottles into the fresh, open Air, or carry them into an open Garret, if you have such a Conveniency; they will there recover themselves much better in the space of eight Days, than they would in the Cellar, in the space of six Months.

BUT there is yet a more expeditious Way, if you have occasion for the Wine for present Drinking, which is this; take one of the Bottles in your Hands, and shake it violently for the space of about two Minutes; then opening it immediately, set it slaunting; all the foul, ropey Dregs will presently rise to the Top of the Bottle, along with the Froth, which you may sling off at Pleasure, and the rest of the Wine will be fine and potable.

HERE take Notice, that the hotter your Wine is kept the more Rough and Hard it will be.

HAVING

HAVING before directed the Shifting the Wines into fresh Casks from time to time, it may not seem impertinent to take Notice of an Invention, they have in *Champaign*, for drawing or forcing the Wine out of the Cask, with the least stirring of the Liquor, which they do in this Manner:

THEY have a Leathern Pipe, about six, seven or eight in Foot length, or more, as they think convenient, and about eight or ten Inches in Circumference; which is well Sowed, and Waxed so as to prevent any Liquor runing thereout.

To each end of this Pipe, is fasten'd a hollow Wooden Plug, or Screw; in the same manner with those used by the common Brewers, in Starting their Beer; the one End whereof, they fix or screw into the Tap-hole of an empty Vessel, and the other End is in like manner, fix'd or screw'd into the Tape-hole of the full Vessel, which is intended to be emptied.

THEN opening the Vent-holes of each Cask, if the same are set level, the full Vessel will without any trouble, about half empty it self into the other Vessel, through the leathern Pipe before mentioned, in a very little time, and with a slow Motion, without much heating or agitating the Particles of the Wine.

HAVING proceeded thus far, they have recourse to the following Contrivance, to perfect the same, without removing the Vessel.

G

THEY

THEY have Bellows purposely made for this use, which are very strong, and some little matter longer then the common Kitchen Bellows, the Pipe of which, is something longer then the others, with a Foot on the under Board, above the Vent-hole, for them to rest upon.

ON the Extremity of the Pipe, or Nose, or Nossel of the Bellows, is a Screw, and in the Pipe thereof, a small Flap or Sucker, which when the Bellows, being full of Wind are press'd down, naturally is forc'd up, it opening outwards; to give vent to the Wind, which is press'd forwards; but as soon as the blast is over, the Sucker or Flap falls with its own weight, and prevents any return of Wind back again that way.

THERE is also a Pipe of Wood fitted to the Bung of the Vessel, which being taper like a Spigot, will suit any Vessel, and is made either to drive or to screw into the Cask; this Pipe is hollow from the smaller end, to within about two Inches of the other end, at which distance from the Top, there is a Hole through the side of the Pipe which meets the other.

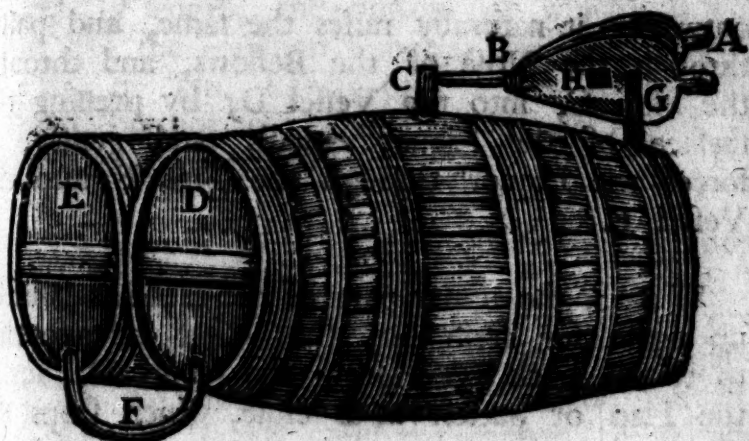
The Screw upon the small end of the Pipe of the Bellows, must be screw'd into the Hole in the side of Wooden Pipe or Plug, and the smaller end of the Plug, either screw'd into the Bung-hole of the Vessel intended to be empty'd, or else drove hard down, and fasten'd with a Screw to prevent its rising, but its being screw'd into the Bung-hole, is the best and safest way.

Y O U R

A
B
t
it
C
T
ei
fi
fo
T
Bello
let

YOUR Plug being thus fix'd in the Vessel, and the Pipe of your Bellows into that, the Foot of the Bellows will rest upon the Vessel, being about the same height with the Plug from the Bung.

THEN by blowing with the Bellows, the Air which passes thro' the Plug, will force all the Wine out of the Vessel to be empty'd, into the other to be fill'd. But the manner thereof, will be better Comprehended by the following Figure.



A Represents the Bellows.

B The place where the Flap or Sucker is plac'd, to prevent the return of the Air, when once it is forc'd out of the Bellows.

C The Plug fixed in the Bung of the Vessel, either by being drove down with a Mallet, or fix'd with a Screw, to prevent the Air from forcing it out of the Vessel.

THE Hole at C is where the Nose of the Bellows screws into the Plug, which is hollow, to let the Air into the Vessel.

G 2

D The

D The Vessel to be Emptied.

E The Vessel to be Filled.

F The Leathern Pipe fix'd to the Tap-holes of each Vessel, through which the Liquor runs from the Vessel D into the Vessel E.

G The Foot of the Bellows, which rests on the Vessel, to support it whilst they blow.

H The Vent-hole, where the Wind enters into the Bellows, in the common manner.

THE Air entering into the Bellows by the Vent-hole at H, is, by pressing down the Bellows forc'd onwards to B, where the Flap opening outwards, it naturally raises the same, and passes through the Nose of the Bellows, and through the Plug C, into the Vessel D, by pressing the surface of the Liquor equally and gently, it forces the Liquor through the Pipe F into the Vessel E.

WHEN the upper part of the Bellows is lifted up again for fresh Air, the Wind endeavouring to return back again from the Vessel D, forces the Flap or Sucker at B close, which stops the return thereof.

BUT when the Bellows are gently clos'd again, the wind having no Vent at H, forces open the Flap B, passes through C into the Cask D, where by its pressure upon the Liquor, it forces it forwards through the Pipe F, into the Vessel E.

THUS these Bellows being fix'd, and blown gently, presses the Liquor all out of D in E, through the Pipe F, without causing the least Agitation upon the Surface or heating the same at all.

WHEN

WHEN they have thus forc'd all the Wine, except about eight or ten Quarts out of the Vessel D into E, they then stop the Vessel close to prevent the return of the Liquor, whilst they remove the Leathern Pipe F, which having done, they gently draw of the Liquor remaining in the Cask D, observing, that there be not the least Foulness, which they carefully mind.

THEY have then a large Funnel of Tin in readiness, having a Pipe about eighteen or twenty Inches in length, the bottom of which, is not open like the common Funnels, but cover'd with a Plate of Tin, having only a few small holes therein, but not so big as those in the Mouth of an ordinary watering Pot.

THROUGH this Funnel (the Pipe being long enough to enter the Liquor in the Vessel E) they pour the remainder of the Wine drawn out of the Vessel D, which by the means of the smallness of the Holes in the Pipe of the Funnel, can pass but slowly; and consequently must occasion the least Agitation, which must necessarily be much greater, if it were suffer'd to pass through more violently.

HAVING thus Empty'd. one Cask, they pass on to the next, until they have shifted them all; Observing to fill the same carefully, within an Inch of the Vent-hole.

IN this manner they shift their Wines, three or four times soon after they are made till about the *April* following; afterwards as often as they remove them from their Warehouse and Cellars,

in order to give them a better Colour, and make them more brisk, and lively; not forgetting the use of the Hinglass, in the manner before directed.

THUS having shewn the Nature, and manner of Pressing the Grapes, Casking, Fineing, Preserving, and Keeping the Wine; as the same is practiced in *Champaign*, and *Burgundy*; it will be proper to return to the first Subject, the Vineyards, and shew how the same are to be Manag'd, after the Grapes are gather'd.

AFTER all their Grapes are gathered, and their Vintage over, in *November* their Vignerons or Labourers, return back to the Vine-yard, and Cut all the Vines down, to within two Inches of the Ground; and bundling up the Cuttings and Branches, into little Faggots, dispose of them for Fewel.

THE reason of their leaving two Inches of the Stock above Ground, is, because the next Year, the young Shoots come out from that Place, and form a sort of a Knot or Head, from whence the Fruit proceeds.

AND thus Annually, they cut their Vines down to this Head; after which they dig the Vine-yard all over, throwing it into Trenches, as before is directed; and proceed in the same Manner.

THERE is a Custom in *Champaign*, and *Burgundy*, and likewise in some other parts of *France*, that when they Weed their Vine-yards, they bring out their Weeds in Baskets, and carry them to
some

some little distance near the Vine-yards; where making Fines, they burn them, and afterwards bury their Ashes, pretending this keeps the Cattle from entering their Vine-yards, who smelling the Ashes, will not come near the same, but fly from them.

WHAT ever truth there is in this Assertion, I will not take upon me to determine; but only relate their Opinion, as well as their Practice in this particular, and leave the Reader at Liberty, to censure their Proceedings, or try the Experiment if they think fit.

THESE are the Customs in Planting, Manuring, and Cultivating a Vine-yard; which are observ'd in *Champaign*, and *Burgundy*; as likewise in the Pressing, Making, and Managing their Wines, which I have chose to lay before the Reader, as the most agreeable to Reason, and to Evince, that the goodness of the Wines, proceed from the Industry of the Inhabitants, rather than from the Advantages of Soil only, there being divers other places in *France*, much more Southerly than *Burgundy*, or *Champaign*, whose Wines are neither so alluring to the Eye, nor so grateful to the Palate.

IN *Languedock*, the Soil is indeed Richer than either that of *Burgundy*, or *Champaign*; yet their Wines are much poorer, besides the Reasons I have before Mention'd for it, there is another which is, that they are neither so diligent in the Culture of their Vine-yards, nor so careful in the Making, or Managment of their Wines.

THE same may be said of divers other parts of *France*, about *Paris* particularly, where through the negligence of the Natives, and their carelessness in the Management of their Vine-yards, their Wines have but a very indifferent repute.

HAVING thus far treated of the Vine-yards, and the manner of Making the Wine, in such a Method as to render the same obvious to the meanest Capacity; it may not be amiss here, to describe the several Sorts of Presses made use of in *Burgundy*, and *Champaign*; of which there are three Sorts.

THE First whereof, which is also the least, is call'd an *Etiquet*; it is about seven Foot Square, and will cost about seven or eight Hundred Livers, or about sixty Pounds Sterling. One of these Presses, are sufficient for those who have but small Vine-yards, and may be work'd with four Men.

THE second Sort is called a *Cage*, and is about ten or twelve Foot Square, and will Cost about two Thousand Livers, or One Hundred and Fifty Pounds Sterling; this will require six or eight People to Manage the same; this is fit for all those who have not very large Vine-yards, being capable of Pressing in one Day, two or three Hundred Gallons of Wine.

THIS sort indeed, is what is made use by those who have the largest Vine-yards in *Languedock*, and *Province*, and other parts of *France*; for there Wood is so very scarce, that there is hardly any Person in those Provinces, (amongst the

the Dealers in Wines, that would be able to purchase one of the largest Sorts, which are call'd *Teissons*.

THESE Sorts are about sixteen Foot Square, and will Cost about one Thousand Crowns each, or three Hundred Pounds Sterling.

THESE Presses consist not of several Pieces of Wood, joyn'd together, but are contrived in the following Manner.

THE Ground is first Dug away, where the Press is intended to be Erected, for the Depth of about three Foot, and about fifteen Foot Diameter, in a Circular Form, then they lay two cross Beams of a vast thickness on the bottom, cross the Center of the Ground, where it has been dug away; answerable to this, is another cross Beam prepar'd, of equal Magnitude with the other, and two large Posts, turn'd in the manner of Screws, which by being let into the ends of the cross Beams underneath, and in the like manner above, and so fix'd to each of the Beams, that they neither rise nor fall, yet will turn round about.

THOSE Persons who have ever seen any of our Packers Presses, may easily conceive the nature of the Frame of this.

EACH of the side Jambs or Posts, being turn'd in the nature of Screws, there is another cross Bar of equal size with the cross Beams before Mention'd; through each end whereof, is a hole made Screw fashion, which is proportion'd to admit

mit the side Jambs or Post, to Screw through the same.

THE side Jambs being so fix'd, in the under and upper Transoms, as to prevent the Floor of the Press from shrinking, or the Cap of the Press from flying off; and being made so as to turn in their Sockets, will by being turn'd round, force down the Bar, through which they Screw, towards the Floor of the Press.

THE whole, being in every respect like one of our Packers Presses, but much larger and stronger.

UPON the Floor of the Press, is a Frame of Wood in a circular Figure, about eleven or twelve Foot over, and rais'd about two Foot high, in the extreem parts whereof are cut Notches or Groves, about two or three Inches Deep, and the like Breadth, with Gutters from each other, that the Liquor running from the Grapes, on to the Floor of the Press, may through them find a readier Passage to Vent it self from the Spout of the Press into the Cask or Vessel, set to receive the same.

THE Body of these Presses, consists not of a fix'd Frame of Wood or other matter, in which the Grapes are to be press'd, but of several pieces of Wood of equal length and size, which they lay Transvers to each other, in this Manner.

FIRST laying down upon the Floor of the Press, two of these Pieces, at about the distance of three or four Foot from each other, they then lay other Pieces Transvers to, and upon them, at
the

the like distance, so that there remains a Square or Cavity in the Middle, betwixt them, of three or four Feet Diamiter, they then fill the said void space betwixt the Beams with Grapes, and lay other Beams Transverse to the last, continuing the same, until they have pill'd up the Grapes, and fram'd up an open Square in this Manner, four or five Foot in height, consisting only of cross Bars, or Transoms.

THE Lid of the Press, which is to let down into this open Part or Cavity betwixt the Transoms, and consists only of a very heavy piece of Wood, being let down upon the Grapes, will force some part thereof through the Cavities, betwixt the Transoms, on to the Floor of the Press; but the greatest part thereof will continue under the Press, and by the weight of the Lid only, the Liquor will flow plentifully there-from.

THIS Liquor which thus runs from the Grapes in this Manner, is what is call'd, *Le Vin de Gout*, or *Le Vin de l'abaissement*.

WHEN the Liquor ceases to run pretty plentifully, they remove the Lid of the Press, and taking away all the cross Bars or Transoms, with steel Shovels, on purpose for Cutting, they Pare away all the Edges of the Cake, then laying down the Transoms again in the same manner, they were before, fill up the square with the said Cuttings, and the Grapes which were either forc'd over the Press by letting the Lid down thereon, or by filling up the same with other fresh Grapes.

THEN letting down the Lid of the Press again, you will readily perceive the Liquor will not run
so.

so pleasantly as before, without Screwing down the same, which must be done pretty strongly; but at the same time, with as much expedition as possible, to prevent heating, and colouring the Wine.

WHEN the Liquor ceases to run, then take up your Press again, and cut the Grape Cake into pieces, throw it up into the Press as before, and Press it over again; this Pressing will yield a greater quantity of Liquor, than either the first or second did, for the Grapes will not now fly so much from under the Press as before.

THUS continue Cutting and Pressing your Cake divers times over, as long as any Moisture will run there-from; in six or seven times pressing, it will be almost as hard as a Stone; which even then by Distillation, will yeild a tolerable good Brandy.

IT may be here proper to take Notice of the several ways of raising and procuring Vines, in order to stock a Vine-yard, since at the Rates the Vines are sold by the Gardeners, and Nursery Men about the Town; it would come to so extraordinary a Sum, to Plant a good Vine-yard, that few or none would be willing to try the Experiment.

FOR according to the Method us'd in *Champaign*, for Planting their Vines; one Vine-yard of four Hundred and forty Yards in length and breadth, being forty Acres of Land, would require at least one Hundred Thirty two Thousand Plants; which at the Rates the Gardeners, and Nursery-Men sell

sell their Vines; if at Six Pence per Root only, would cost three Hundred and thirty Pounds.

BESIDES so great a Number, could not be supply'd by all the Gardeners, and Nursery-Men in the Kingdom; unless the same were purposely rais'd, to answer the Demand.

To obviate therefore the difficulties which might arise from the Scarcity, as well as the Charge; it will be proper to mention the several ways of producing Vines, whereby a sufficient Quantity might be speedily rais'd, and at a small Expence.

THE most common way amongst the Gardeners, and Nursery-Men, is to raise them from Layers, that is from young Shoots, from or near to the Root of the Tree; which when they trim their Vines they leave thereon, sometimes one, two, three or four to each Vine; which being bent down to the Ground, and the middle of the Shoot laid therein, about five or six Inches deep, carefully cover'd with good Earth, or Mold, and the end of the Shoot left above Ground, it is fed with Juices from the Body of the Tree, untill the part of the Shoot, which is buried in the Ground strikes and take Root, after which separating the same by cutting it off from the Vine, it becomes a Plant, and will bear about the third Year after.

THIS is the common Practice amongst the Gardeners and Nursery-Men, but the same is very tedious, and the produce very small, for they can seldom lay down above three or four of these Layers from one Vine in a Year.

ANOTHER

ANOTHER way much readier for producing Quantities of young Vines; and whereby a Person may soon supply themselves with any Number they shall think necessary, and which I have seen try'd with Success, is this.

To take the young Shoots, Suckers, and Trimming of the Vines, at the Pruneing, about eight or ten Inches long, and clap them into a Pitcher; or Pail of Water, as they are cut of, until they can set them in the Earth.

WHEN you are ready to set the same, having prepar'd a small Spot of light, warm, mellow Ground, pluck of all the Leaves from the Setts; and thrust them about six or seven Inches into the Earth, they will there take Root and Grow.

I have seen of these young Shoots or Twigs, set in this manner, and Shooting within one Month after; though they have not been set at above an Inch and a half, or two Inches asunder, but it must be a very light Soil; though I should think it much better, were they set at the distance of three or four Inches.

LET them not be set in to cool a Place, nor where they will be to much expos'd to the Extremity of the Weather, for a little matter must needs kill them, before they have taken Root.

ABOUT *November*, or the latter end of *October* after they are first set, you may cut them down to within two or three Inches of the Ground, in order that they may the better strike at the Roots; these will in time become good Vines,
and

and is a proper Method for such Persons, who would raise a large Number in a very short time; for you may take from some Luxurious Vines, five Hundred of these Shoots in one Season, whereas of Layers, you could not, perhaps, procure above three or four in a Year.

THERE is another way, which I approve of still, better than any of the other, which is this.

MAKE choise of some Prolifick Vine, whose Shoots are very Luxuriant, and having singled out one or two more of the longest Branches thereof, open Trenches from the Root of your Vine, equal to the length of Branches, about seven or eight Inches deep.

IF you perceive the Soil to be cold, heavy, or clayey, then mend the same, by a proper Mixture of fit Mannure to Invigorate, and Mellow the same.

HAVING done this, bend the Branches down, and lay one in each Trench at the depth aforesaid, quite from the Root of the Vine, but do not cut it off; if there be any strong Shoots upon the same Branch, you may likewise lay them down, by opening a Trench for the same, of a length sufficient; having thus laid down these Branches, as many as you think proper from your Vine, but not so close that they may either prejudice one another by the Roots, which will shoot out from the Branches intermixing, or by the Earths not yeilding a proper supply, and sufficient Quantity of Juices to support the same.

THOSE

THOSE Branches will in a short time, shoot out a vast Quantity of small Fibres, quite from the Root of the Vine, to the extremity of the Branches; which Fibres will take Root in the Earth, and draw Nourishment therefrom, which will occasion the Branches to send forth a great number of Shoots, which will the second Year appear above the Earth, the whole length of the Trenches where your Branches were laid down.

THEN with a Knife, you may seperate the Branches from the Vine, close to the Root, leaving the same still in the Ground; when the Shoots appear strong and vigorous, at the Season for Planting; having first prepar'd your Soil, where you intend to Plant, take up the Branches with all its Shoots, and Fibres thereon, and with a sharp Knife, cut the thick Branches directly cross into little short Pieces, about two or three Inches each in length, leaving both the Shoots, and Fibres thereon.

PLANT these little Pieces in your prepar'd Soil, at the distance you intend your Vines, and if the Soil be kindly, they will shoot apace; thus from one of these Branches, have I seen above one Hundred Vines rais'd in a short time, which have shot and throve very well, and bore very kindly.

AND of these Branches may easily be laid down Annually from each Vine, enough to raise a large stock of Vines, in a short time.

THIS will be a more Expeditious way, than the raising them from Cuttings, as is before Mention'd

tion'd, for though you may have the pleasure of seeing the Cuttings shoot sooner; they will be but weak, and longer before they bear, these having a much stronger Root in one Years time, than the others will have in three.

WHEN you have Planted them out in your Vine-yard, you must keep them Cutting and Pruning, in the manner as before directed.

AN Experiment has been try'd with Success, by laying down all the Branches of a large Vine, in the manner before describ'd; and afterwards Planting the same out again, in the manner directed, and not only so, but likewise by cutting the Root thereof into pieces, in the same manner, and Planting the same, which has shot vigorously, and produc'd Fruit in a plentiful manner; but this Observation must be made, that the thicker the Root is, the larger the Pieces must be, by reason they are so much older, and therefore require a greater Quantity of Juices, in proportion, to support them, till by being thus seperated, the new Fibres which shoot from them, occasions them to become more Vigorous, and Luxuriant than before, and will bear more in proportion.

THUS from one of these Vines, according to the above Experiment, was produc'd upwards of fifteen Hundred Vines, a number sufficient to set above half an Acre of Ground, in the manner propos'd.

YET the best and easiest way, (though not practis'd by our Gardeners, and Nursery-Men in England) for raising them, is by Sowing the
H Grape

Grape Seed; in which all that is needful is this.

MAKE choice of such Grapes as you intend to raise your Vine-yard of, and having sav'd a large Quantity of the Seed or Stones, let the same be thoroughly dry'd before you sow it.

THEN preparing a small Plat of Ground, in the Nature of a Cucumber-Bed, sow your Seed therein, about three or four Inches deep; let it not be too much expos'd to the Extremity of the Weather, you will in a few Months time perceive the young Vines to appear very promisingly, which will shoot that same Year to six or eight Inches in height.

ABOUT the latter End of *October*, or the beginning of the *November* following, cut them all down, to within two or three Inches of the Ground, observing to cut 'em off a little above the Joynt; then if the Place is too much expos'd to the Severity of the Weather, when the approaching Season comes on, cover them with Mats, or some other Sort of Fence, to protect them from the Frost and Snow, till the approach of a milder Season, remembering, however, to allow them the Benefit of the fresh Air, on those Days and Times which are most favourable.

THE next Spring, you will find 'em begin to shoot again, more vigorously than the Year before; and if you perceive they are too Luxuriant, you may crop the young Tops, and prune them again, as before.

THE

THE next Year they will be strong enough to resist the Weather, and you may begin to draw the largest and most promising of them for planting out into your Vine-yards.

BUT if you have sown your Seed too close, that you find the Quantity is likely to prove any Obstruction to their growth, it will be proper to draw off the most promising of them the second Year, and plant them out into Beds, at the Distance of five or six Inches asunder, where they will thrive extraordinarily well; and in a Year or two afterwards you may plant them in your Vine-yards with good Expectation of Success.

THESE Vines, thus rais'd from Seed, will bear Fruit about the sixth Year; but notwithstanding, they are preferable to those rais'd from Layers or Cuttings; tho' those rais'd from Layers will bear the third Year, and those from the Cuttings about the fifth Year; for these rais'd from Seed, will be more strong, vigorous, and bear in a much larger Proportion are not so subject to any Accident, and the Fruit will be much finer and better tasted, and the Vines continue much longer, they being fed and nourished from their own natural Root originally; whereas all the others is only an artificial Way of Production.

By this Method of raising your Vines from Seed, in order to be supply'd with Fruit of the Product of any Country, 'tis only to procure a sufficient Quantity of Seed from thence, which may be had at a trifling Expence. Either the

Seed alone, or the Fruit, tho' if you have the Fruit, you are most certain not to be deceiv'd in the Sort.

THERE are several Ways of preserving the Fruit of any Country, (from which you may at Pleasure seperate the Seed.)

THE Grapes from *Spain, Portugal, Italy, &c.* are frequently brought over from those Parts, in Boxes, fresh and good; and sold by several Fruiterers, and other Persons in the Town.

THE like is brought over several Ways, and preserv'd from Putrefaction, by drying the same in several Degrees of Heat, as may be seen in the *Mallago* and *Smyrna* Raysons, and Raysons of the Sun.

AND from each of these Sorts, or any other Sorts brought over, in the like Manner the Seeds may be taken, and preserv'd for Sowing, which will answer Expectation; for the drying the Grapes does not in the least destroy'd the Life of the Seed, or hinder'd the vivifying Faculty thereof, it being only the more watery Part of it, which is exhal'd by the Heat, and which, if not evaporated, would cause the Fruit to putrify, as we see in Grapes, Mulberries, Strawberries, Raspberries, &c. which, if gather'd with any Dew or Wet upon them, and laid in a cool Place, where the Moisture cannot be presently exhal'd by the Sun, or some other proper Degree of Heat, will immediately grow Rotten and Mouldy.

THOSE

THESE Persons, who will be at the Expence of purchasing the Plants from Abroad, may, by a proper Correspondent, do it. The Charge of the best Plants, in *Champaign* and *Burgundy*, fit to set out into a Vine-yard immediately, is about Eighteen-pence *per* Hundred.

THESE may be pack'd up in Barrels, with a small sprinkling of Earth amongst them; and being taken up about *Michaelmas*, will keep in that Manner until *Christmas*, or longer, without being put into the Ground, and may safely be transported to any Place.

OF the several Ways and Manners of Production, before spoken of, I should most approve of raising the Vines from Seed; for tho' they are something longer before they begin to bear, they will quickly exceed all the others; adding to that, that the Charge is inconsiderable, as well of Seed as Tillage, a Spot of Ground of only ten Yards square, will be sufficient to raise above one Hundred and Fifty Thousand young Vines till they are fit to be transplanted.

THE next, to raising 'em from Seed, I would prefer that of producing them from an old Vine, or from the Branches thereof, in the Method before describ'd, they being in Strength and Goodness equal to those rais'd from Suckers, besides the Difference in Quantity, one Vine being hardly capable of yielding more than three or four Suckers annually; whereas from the Branches laid down, as directed, they will produce as many Scores.

THE third Way, from Cuttings, one may indeed raise any Quantity they think necessary; but they will be five or six Years before they begin to bear, and great Care must be taken, that they are not suffer'd to run too luxuriously, or spend themselves too much in shooting; for the Roots being but weak, they would soon destroy themselves, if suffer'd to run too much to Head; these ought to be kept down for two or three Years at least.

THE Advantages of this Method, is, that one may in a short time procure any Number of Plants that shall be necessary for the stocking any Vine-yard whatsoever; and with Care these will raise a very good Vine-yard, keeping the Stocks down, to encourage the Roots, until they come to a Perfection in growth, when they will shoot on as vigorously, as any others.

HAVING thus briefly run thro' the several Customs of divers Provinces, in Cultivating, Manuring, Pruning, and Dressing of Vine-yards; and likewise in gathering the Grapes, pressing the same, making, managing, and keeping the Wine, it may not be amiss to give a Kalenderical Account of all the necessary Works proper to be done, in each Month of the Year, as well in the Vine-yards as in the Cellars; whereby the Reader will have a much better and clearer Idea of the Whole, and the Times proper for the Management thereof, than otherwise they might have.

IN order to which, presupposing that a Vineyard has been cultivated, manured, set, and planted

plac'd in the manner before directed, for the ordinary annual Work, I shall begin with the Month of

JANUARY.

IN this Month, there is little needful to be done to your Vine-yard, unless you will turn the surface of the same, and cast it up more into order, Trenchwise, it being suppos'd that you have Dug the same before, at its proper Season; those things proper for the time of the Year, you may Sow or Plant in the intermediate Spaces betwixt your Vines, taking care to leave such Spaces, as will without prejudice admit your coming into the Vine-yard, to perform the necessary works of the ensuing Seasons.

FEBRUARY.

IN this Month, take of your prepar'd Manure, made from Hogs, Sheep, or Cows Dung, well mix'd with a proportionable quantity of Earth; after the same has been expos'd to the Weather for some time, to disperse the ill Effluvias that would otherwise arise from the same, and prejudice the Vines, by giving an ill flavour to the Taste of the Fruit. The preparing of this Manure has been before directed, of this let a small Basket full be laid upon the Ground, and spread about the Root of each Vine, the better to disperse and draw off any ill offensive Smell, that may therein otherways remain; this Manure having thus lain expos'd to the Weather, about ten or twelve Days, open a little hole about a Foot deep, at the back of each Vine, and bury the Manure which you had before spread about the

Root therein; This will wonderfully strengthen and invigorate the Vines, and they will shoot and bear much better for it; In your Pruning your Vines, observe to cut them down close to the head of the Vine, which by your Annually cutting them down to the same place, you will find will form a Knot or Head, from whence young Shoots will always sprout, these Shoots you must take quite off, excepting one or two of the most promising, you may plant young Vines in the room of any such as are decaying, if you have omitted the doing thereof, in the three last Months, draw off your last years Wines into fresh Casks, in order to the better fining the same, remembering to make use of the Isinglass dissolv'd in Water, Wine, Spirits of Wine, or Brandy, as before directed, and likewise the Brimstone, keep your new Wines fill'd up in the Casks.

MARCH.

YOUR Vines will in this Month begin to shoot strongly, observe to nip off from time to time, any young Sprouts, Shoots, or Suckers, arising from the Roots whilst they are very tender, excepting those left for Fruit; In order to encourage the bearing Branches, and having provided a sufficient number of Poles, or Sticks, of such sorts as you think proper for your use, stick all your Vines therewith; Prune such as you have either forgot, or have not had time to do before. As to your Wines, observe to draw off in this Month, as well your old Wines, as your new, to make them more fine and bright; those Wines which you intend to Bottle, are fittest to be drawn off this Month, let them be plac'd

lac'd in your coolest Cellars, as also those Wines in the Casks likewise, to defend them against the Heat of the approaching Season, see that your Casks are kept full, within an Inch or two of the Bung, to prevent their flatting or growing fower.

A P R I L.

BE careful to keep your Vine-yard free from all obnoxious and offensive Herbs, Weeds, or Grass; tie up the Shoots of your Vines to the Sticks, with Rushes, or Bast, such as Gardeners Matting is made of, and not with Packthread, or any such like fastnings, for as that rots and swells with Rain, or any Moisture falls upon the same, it breeds and harbours Vermine, to the prejudice of your Vine-yard; in this Month, if your Vines shoot Luxuriantly, you may begin to Top the same, by niping of the Heads to about eighteen or twenty Inches in height; suffer not any thing Planted in your Vine-yard to run so high, as to interpose betwixt the Sun and the Vines, that may prevent their being fully expos'd to the Warmth of the same, or depriv'd of its kind, and benign Influence; enter not into your Vine-yard, in this or the next Month, whilst there is any Rain, Dew, or Fog, upon the Vines, nor until the the Sun has exhal'd the Moisture from the Vine-yard, by reason, should you handle any of the Vines then, it will be very prejudicial thereunto, and those which are so handled, generally Die, or at least Languish for a long time, before they can recover themselves; shift the remainder of your Wines, not shifted in the last Month, into fresh Casks, whether the same be New or Old Wines.

M A Y

MAY.

YOUR Vines will now shoot so Luxuriantly, it will be necessary you go over your whole Vine-yard, taking off from the Heads, all superfluous Shoots, not intended for Fruit, and likewise to Top all those that are design'd for such; To tie all your Vines to their proper Supporters with Bast, or Rush as aforesaid, at about six or seven Inches from the Ground, and likewise at about fifteen or sixteen, tie them close enough to keep them from sinking with the weight of the Fruit, yet not so close as to pinch or obstruct them in their Growth; but let these Works be done in the midst of the Day, and whilst the Weather is warm, for should you handle the Vines whilst the Dew is upon them, you will find it will prove very pernicious to the same.

YOUR Wines having been all shifted in the two last Months, you have nothing more to do to them in this, than only to observe, that the Vessels in which they are contain'd, are kept always full, at most not to want more than an Inch and half, or two Inches of the Bung of each Cask, still observing as they shrink, to fill up each Cask, to that height at least, with fresh Wine from time to time.

JUNE.

IN this Month likewise, your Vines will require another trimming, or taking off of the new Superfluous Shoots, which have shot out since your last dressing them; as also another tying, at about twenty two, or twenty four Inches from the Ground;

ground; Top them again, and leave not your bearing Branches, more than three or four Inches above your last tying, keep your Vine-yard clear of all Grass, and Weeds, and begin to clear the intermediate Spaces betwixt the Rows of Vines, from all such Herbs Sallating, &c. as you may have therein sown, as well to prevent their drawing the Juices of the Earth to much, as to give you the more Liberty for your free egress and regress amongst your Vines, without touching or damaging the same.

You have very little needful to do to your Wines in this Month, unless it be to Bottle off some of your Wines, which you may have occasion for, either for use or sale, in that Case shift your Wines, and fine them down as before directed, about ten Days before you draw them off; This shifting and fineing with Isinglass, and burning Brimstone put therein, will make the same more brisk, lively sparkling, and brilliant in the Glass, than otherways it would be.

JULY.

KEEP your Vine-yard free and clear, from all obnoxious and offensive Herbs and Weeds; gather all your Herbage, and other matters sown in your Vine-yard; pluck from the Vines most of the Leaves, leaving not more than four or five Leaves upon each, to give the Sun the greater liberty; if they shoot to much, nip of the Tops again, and any young Suckers that may sprout out from the Roots.

You must now prepare your Casks ready, against the approaching Vintage, let them be all
clean

clean, and to give the better flavour to your Wines, infuse some Peach Leaves and Flowers in hot Water for sometime, till the Water smells of the Peach Flowers; With this Liquor being hot, rince out all your Casks, the Leaves and Flowers, will add a pleasant fragrant Taste to the Wines, when the same are put therein, then let them be set by to dry, until your Wines are ready to be put therein; get your Presses in readiness likewise, the nearer the same are to your Vine-yard, (if you would have your Wines fine, white, and clear) the better, but if you intend only to make red Wines, it is not material whether the same are adjoining thereunto, or at any distance from the same.

AUGUST.

IF your Grapes appear to be ripe enough for the Press, as soon as you perceive you have a sufficient Quantity fit to gather, get your Vignerons, or Labourers in readiness, each of these Vignerons should be provided with a Basket, or Pail in one Hand, to lay the Branches in as soon as gathered, and a Knife in the other, to cut the same from the Vine; observe in gathering the same, these following Directions.

First GATHER them in Cool, Rainey, Dewey, Misty, or Foggy Mornings, before the heat of the Sun has exhiled the Moisture, from the Grapes.

Secondly, To cut the Branches from the Vines, as close to the Grapes as possible, thereby to have the less Stalk, because the more of the Stalk goes into the Press, the rougher and tarter the Wine will be.

Thirdly,

Thirdly, To carry them to the Press, without beating, or bruising, if you would have your Wines fine and clear, and to suffer no rotten Grapes to be put amongst them.

Fourthly, To Press your Wines with the utmost Expedition, if you would have them White.

THE *Champaigners* have Baskets made of Wicker, for gathering their Grapes, which are work'd so tite and close, that nothing can pass through the same, but they will retain the very Liquor, which they sometimes carry therein.

GATHER only such Grapes as are most ripe, for the Wine drawn from this gathering, call'd the Wine of the first Gathering, is much finer then any that shall be drawn afterwards.

PRESS your Grapes in the manner directed, and having drawn your Wines, mix the several Sorts, according to your Inclinations, see that they are properly Fermented, and as those of the latter pressings, will be the most backwards, put some of the Froth which will arise from the finer Sorts, to those others; to promote their Fermentation, put the Liquor into proper Vessels, and set them in convenient Cellars, or Storehouses, observe not to stop them down, but leave the Bung open for sometime, and afterwards stoping down the Bung, open the Vent-hole, that they may have room to Purge and Cleanse themselves by Fermentation.

SEPTEMBER

S E P T E M B E R.

IF you gathered your Grapes, the first Cutting about the middle of the last Month, you will have another Cutting ready about the twentieth of this Month, which will be fit for the Press, which you must gather in the Manner before directed, still leaving upon the Vines, all such Grapes as either green or not quite ripe, until your last Gathering, observing always, that the cleaner your Pressings are, from green, unripe, rotten, and damaged Grapes, the finer and purer your Wine will be.

O C T O B E R.

ABOUT the latter end of this Month, you may gather all the remaining Grapes left upon the Vines, from your former Gatherings, if there be any green ones, unripe, damaged, or rotten one, it is not material, for the Wines will fine in there Fermentation, nor need you be so careful in the Gathering the same, nor so expeditious in the Pressing, for this Wine of it self, notwithstanding the utmost Care, will be more backward, eager, and acid, than the others, besides you must use Art, as well to promote the Fermentation, as to accelerate the Ripening of the Wine, when in the Casks, as has before, in the Body of this Treatise been particularly directed.

SHIFT all your Wines, as well New as Old this Month, and lay them in your warmest Cellars, to prevent their being to much chill'd, by the coldness of the Approaching Winter; Keep
your

our Casks full of Liquor, let your Wines Press'd in this, and the next Month, be frequently roll'd in the Casks, to heighten their Fermentation, which must be first begun, by putting into the Wine, when first put up into the Cask, a little of the Froth which arises from the finer Sorts; which causes them to ferment, as East or Barm doth Ale or Beer, and the frequent rolling about, likewise Heats and Melliorates these Wines, so as to render them much more Palatable, than otherways they would be.

NOVEMBER.

CLEAR your Vines (if you did not do it last Month) from all the Fruit left thereon, at former Cuttings; about the latter end of this Month, cut all your Vines throughout your Vineyard, down to the Heads before mention'd, about two Inches from the Ground; Cut them not directly cross, but rather slopewise; that the Rain or Wet falling thereon, may not so readily lodge upon the Heart or Pith of the Vine, which if it does, it will be apt to rot and decay the same, to the prejudice of the Vines, but if the same be cut slopewise, it will run from off of them, without any injury; after which begin to dig your Vine-yard throughout, at least sixteen or eighteen Inches in depth, and cast it up Trenchwise as before, remove your Sticks, or Poles, from your Vine-yard, to some convenient Place, till you have occasion for them the next Season.

PRESS and Cask your Wine in the manner before directed, but it will be necessary, all your Wines drawn in this or the last Month, should be roll'd in the Casks frequently, to Ripen and Melliorate

Melliorate the same, as is before mentioned, for these latter Wines will otherways be backwards, and not come to perfection without it.

DECEMBER.

FINISH the Digging and Trenching your Vineyard, as before describ'd, if any of your Vines are dead or dying, or you would pluck them up, and Plants other in their rooms, you may do it any time this Month, if the Weather will permit, or in the last, or the next of it be an open Season.

HAVING thus far treated of the nature of the Soil, Culture, and Management of Vine-yards, in such a manner, as will sufficiently instruct any Person in the true Method in Practice, for Planting, and Managing the same, for the Etertainment of the Ingenious; I shall here proceed to the mentioning of divers curious Experiments, the Knowledge of which is Profitable, as well as Pleasant.

THERE are divers Methods of helping *Germi-*
nation, as well by the goodness and strength of Nourishment, as by the comforting, and exciting the Spirits in the Plants, to draw the Nourishment the better, as daily Experience shews, that the Planting Trees against a warm Wall, to the South or South-East Sun, doth accelerate the ripening of the Fruit, without any application to the Root, or Earth; and that the South-East Sun, is better then the South-West is demonstrable, and found by daily Experience, although the South-West Sun is hottest; the cause seems to proceed from this, that a more moderate Heat

is fittest to succeed the Colds, of the preceding Nights, for where the Heat is too violent, the Juices are exhauled, and dried up.

THE Planting such Trees, as Vines, Apricots, Peaches, &c. at the backside of a Chimney, where a good Fire is constantly kept, is likewise found to be a means of hastening *Germination*, and it is no unpleasant sight to behold, the Branches of a Vine drawn into a warm Room, thro' a hole in the Window, or Wall, for the Fruit will there ripen sooner, than if it were altogether without doors; Experience in this Manner, hath produc'd Grapes a full Month sooner than the usual time.

ALSO if you mix *Nitre* with Water, to about the consistence of Honey, and anoint the Bud of the Vines therewith, after the cutting the same, they will Sprout out in about eight or ten Days; the reason therefore is, that the Spirit of *Nitre* (which is in a manner the Life of Vegetable) opens the Bud, and parts Contiguous thereunto.

AND to have the Trees, or Fruit larger than commonly are, many Persons with success apply Salt, Lees of Wines, or Blood, to the Roots thereof.

ALSO Experience hath taught, that the Grape-Cakes and Stones, after the Pressing, cut in pieces and buried at the Roots of the Vines, is a very great helper.

WE have been told by divers of the Antients, that if you take two Twigs of several Trees, as for instance, a black Grape, or a white, or any other Sorts, and gently bruising them, bind them
I together,

together, and set the same in the Ground, they will grow into one Stock, notwithstanding which, the Fruit will be various, the one White the other Black.

WHERE Note, that an *Unity* of Continuance, is much easier to procure than an *Unity* of Species.

IT is also reported, that two Vines, the one Red, the other White, or the one Black, and the other White, having their upper parts flatted, and bound close together will grow into one, and will put forth Grapes of several Colours, upon the same Branches, and the Grape Stones also shall be differently colour'd; and the more, as they increase in Age, the Unity of Body growing more perfect, more especially if they be frequently Watered, moisture serving very much to encrease the Union.

IT hath likewise been observ'd, that young Trees set close together, in very fruitful Ground, have sometimes incorporated and grown into each other.

IT has long been a received Opinion, deduced from Tradition, that there is such a thing as Simpathy, and Antipathy in Plants, and that some thrive best by growing near each other; but these are really no other than Fictions, there being in reality no such thing as Simpathy, much less Antipathy in Plants, as has been asserted; what is thus commonly esteemed Sympathy, and Antipathy, is no other than this, wheresoever any one Plant draweth strongly any particular Juices from the Earth, as it qualifieth the Ground, it doth

doth good to any other Plant adjoyning, that draweth other Sorts of Juices; the Juices remaining, being fit for the Nourishment of the other Plant, thus their Neighbourhood doth good to each other, and this is what is call'd Sympathy; But where each Plant draweth the like Nourishment, their Vicinity and Neighbourhood, is prejudicial to each other, the Ground not yeilding a sufficient supply of Juices, or Nourishment for each of them, and this is what is called Antipathy, whereas in reality, if it be any thing, it is more properly Sympathy, they both requiring the same Juices, and Nourishments.

For this reason it is, that Coleworts are said to be such an enemy to Vines, that they hinder the growth thereof; whereas the real occasion proceeds from this only, that they being very great drawers, attract the Juices of the Earth, in such Quantity, that they leave not a sufficient Quantity of the like Juices, for the support of the Vines, which for want thereof, must consequently suffer, and grow weak by their Neighbourhood, so that if the enmity be understood in this Sense, the Colewort is not only an enemy to the Vine, but to all other Plants, which require a great Nourishment of the fattest and richest Juices of the Earth.

As to the report, that the Vines next the Colewort, will turn from them, (if that be true) it proceeds only from this Reason, that those Roots next the Coleworts, being more sparingly supply'd with proper Juices, not having sufficient to support themselves, must consequently languish and decay.

FOR this Reason it is, that Plants of contrary Natures thrive best, intermix'd with each other as is the Case of a Yew Tree, and a Fig Tree; so likewise of Roses and Garlick, of the former, the one drawing the Bitter, the other the Sweet; and of the latter, that the odoriferous Juice of the one is drawn to support the Rose, and the more fetid the Garlick.

FROM this Observation an ingenuous Planter may help the Taſt and Reliſh of his Fruit, by intermixing the Bitter Plants amongſt the Sweet.

IT would be Endleſs to enumerate the Experiments that may be try'd to this Purpoſe, by thoſe who are inclin'd. And from this Cauſe proceeds a great deal of the different Taſt of Fruits of the ſame Species; altho' moſt of our Gardeners and Nurſery-Men are ignorant thereof.

I SHALL here juſt mention what I have before obſerv'd, that the ſmaller the Vines, the ſweeter the Wines will be, and the larger the Grapes; the frequent cutting and pruning them, keeping them more vigorous. It has been obſerv'd, that in antient Times, Vines were of much larger Bodies than at preſent, inſomuch, that drinking Cups have been turn'd out of the Bodies of them: And Hiſtory mentions ſeveral ſo large, that an Image of *Jupiter* was made out of the Trunk of one of them; but 'tis reaſonable to ſuppoſe theſe were wild Vines; for by their being ſuffer'd to grow, without cultivating, they grow much larger than thoſe in Vine-yards; but the Fruit is fit for nothing but to make Vinegar.

T H E R E

THERE are divers Ways which have been practised, by the Antients, for preserving the Fruit of the Vines, after the same has been gather'd. Of which, for the Entertainment of the Curious, we shall mention some.

THEY take them in Bunches, and hang them in Strings, within an empty Earthen Vessel, but not to let them touch any Part thereof; and having stop'd them close down, set the same in a dry Place, they will keep a long time.

So likewise if they are hung in the same Manner, within some Vessels, a third Part or half full of Wine, but not to touch either the Vessel or Wine, they will keep longer.

ALSO, that the preserving the Stalks helpeth to preserve the Grapes, especially if the Stalks be thrust into the Pith, or hollow Part of an Elder Stick, without touching the Grapes, the Juice remaining in the Elder, helping to preserve and nourish the Grapes.

So, they have told us, that Grapes will continue fresh and moist all the *Winter*, if they are carefully hung in the Top of a warm Room, without bruising; but they must not be over ripe when they are gather'd, for the riper they are, the sooner they will decay.

THIS Observation hath been frequently made, and found true, that Vine-yards planted near dusty and great Roads thrive best; because the Dust that arises from the Road, being carry'd amongst the Vine-yards, leaves a Soiling upon the

the Vines when the Showers fall, which greatly conduces to the Nourishment thereof.

THE burning of the Cuttings and Trimmings of the Vines also, and the Ashes cast upon the Vine-yard before the same is dug and cultivated, is of very great service to the same.

IT was a Practice, in Use formerly, amongst the Antients, to graft Vines upon Vines; of which, there were three Ways. The first, by Incision, or the common Manner of Grafting. The second, by Terebration, thro' the Middle of the Stock, and placing the *Cions* there. And the Third, the parting of two Vines that grow together, to the Marrow, and then binding them close. But of this we shall speak farther before we conclude, by relating some Experiments which we have successfully try'd, and which will be of singular Use and Advantage to such as have any Fruits, which they are desirous of improving.

THIS Practice was also used by the antient *Grecians*, to keep their Wines from Fuming, and Inebriating, which was by adding a Quantity of Sulphur and Allum; the one is Unctuous, and the other Astringent; for which Reason, the Nature of those Things, is to repress and prevent the Fumes.

THIS Experiment would be of very great Use, if it were practised in our Wines and Drinks, by preventing them from intoxicating or stupifying the Drinkers thereof, if the same were put in, whilst the same is in its Fermentation or Working,

THEY

THEY have likewise accelerated the Ripening of the new Wines, by letting the same down into the Sea, or laying the Vessels sometime in Salt Water.

It is reported by the Antients, that if you take the young Shoot of a black Vine, and likewise of a white, and split them through the middle, taking care not to loose out the Pith, and joyn the contraries together, binding them up close with Loom, or some such like Consistence, then Graft them into another Vine stock, they will shoot and bear Grapes, the Kernells or Stones, of which will be half black, and half white.

So likewise it is reported by *Columella*, that if you take the Branches of a white Vine, and of a black Vine of the same size and growth, and gently brusing them, bind them carefully together, and Plant them into some fruitful Ground, they will quickly unite and grow together, and produce Grapes of different colours; also he says, that if you will take the young Twigs fresh from the Vines, four or five, or more of several Sorts, and binding them up together, fill an Earthen Pitcher, or Jugg, (having a wide Belly, and a strait Mouth, with fit Mould,) and therein stick the Shoots, so that their Tops only be above the Earth, and setting the same in the Ground, they will grow, and the Bodies of them will unite into one, being confin'd by the straightness of the Mouth of the Pot; which when you find they are, you may break the same in Pieces, and Plant it into the proper Ground, where you intend to stand, and they, will bear Fruit of so many different Colours, or

I 4

Sorts

Sorts, as the Vines they were originally taken from; you must take care to keep them well water'd, whilst they lye in the Pot, and when you find them sufficiently United, you may cut off the Tops, in the place where they seem to be the most strongly joyn'd, and having healed the same, to prevent its bleeding to Death, set it in the Ground again, covering it about three Fingers over, it will soon shoot, from whence you may take of two or three of the most promising, and strongest Shoots, and Plant them in such places as you think proper, they will bear Fruit according to your Expectation, this same Experiment is mention'd by *Pliny*, as well as *Collumella*.

BUT *Didymus* directs the Experiment to be try'd in this Manner; you must *says he*, take two Vine Branches of divers kinds, and cleave them through the middle, but so carefully, that the slit go down to the Bud, and that none of the Pith be lost, then close them together so exactly, that the Buds meet, and let them touch each other, whereby both of them may unite and become one, then bind up the Branches with Paper, as hard as you can together, and cover them over with the Sea-Onion, or some other stiff, and clammy Matter, then Plant, and water them, for four or five Days, after which time they will joyne, and shoot forth one perfect Bud.

AND *Johannes Baptista Porta* the *Neapolitan*, relates this Experiment, of his own knowledge; *I my self*, says he, have made choise of two Shoots of divers Vines, growing one by another, I cleft or cut them of, in the place where the Buds were

were growing forth, leaving the third part of the Bud upon each Branch, after which I fastened, and bound them together into one, very fast, lest as the Buds grow larger, one of them might fly off, or break from the other; and having fitted them so well, Branch to Branch, and Bud to Bud, that they made but one Stalk, the very same Year they brought forth Grapes, with cloven Kernels or Stones; this Shoot springing up in this Sort, I then put it to another, (in the like manner as before) and when that was so sprung up, I joyn'd another in the same Method, and to several others afterwards, in like Sorts, but all of various Kinds, by which Method, I procured and had growing upon the same Vine, at one and the same time, Clusters of Grapes of divers Colours, and divers Natures, for one was sweet, and another sower, one red, another black, one white, and another green, the Stones of some were long, the others round, some slit, and others crooked, which was a pleasant and curious Sight to behold.

Florentinus in the Eleventh Book of his *Georgicks*, also *Diophanes* say, that if a Hole be bored through the Trunk of a Vine, near the Ground, and then drawing an Olive Branch into the same, so that it may both receive from the Vine the sweetness, and from the Ground its natural Juices and Moisture, the Fruit will participate of both kinds, more especially if this Experiment be try'd upon a young Vine, before it has born any Grapes, and that this Fruit was call'd by the Antients *Eleo-staphylus*, or the Olive Grape; and adds, that in the Orchard of *Marius Maximus*, he both saw and tasted the Fruit thereof, which was produc'd in the manner before directed; and says further,

further, that such Plants in his time, grew in divers parts of *Africa*, where they were called by a Name proper to that County, *viz. Ubo-lima*.

Also *Tarentius* Writes, that if the Vine is Engrafted into the Mirtle Tree, the Branches which are so Engrafted, will bear Grapes, having Mirtle Berrys growing underneath them, but this must be observ'd, the Grafting must be near to the Ground, otherways if it be Grafted on the Top of the Mirtle Tree, they will bear pure Grapes, without any Mirtle upon them.

TARENTEIUS writes, that if you engraft a Black Vine upon a Cherry-Tree, it will produce Vines in the Spring time, at the same Season, that it would have produc'd Cherries. But this Method of Engrafting must be in the Manner prescrib'd, by *Didymus*: That is, by boring a Hole thro' the Stock, which must be done in this Manner. With a large Wymble or Auger, bore a Hole thro' the Body of the Tree, than take one of the best Branches of a neighbouring Vine, and draw it thro' the Hole, as far as you can; plaister it about on each Side with Loom, and let it so continue for the space of about two Years, before you cut it off from the Vine, by which Means it will thrive the better, as being nourished from its own Mother-Root; when you find it grown and incorporated into the Tree, and that the Skar is grown over again, which it will be in about two Years; then cut of the Branch from the Vine-Root close to the Tree, and saw off the Body of the Cherry-Tree just above the Place where it was bored, so shall you have Grapes answerable to your desire.

BUT

BUT in order to make your Vines bear Fruit before their common Season, do this: Take *Nitre*, powder it and mix it with Water, and as soon as you have prun'd your Vine, anoint their Buds therewith, so that it lye thick upon them; you will find by this Means they will shoot in about nine or ten Days. And if you take the Mother of the Wine, or Wine Lees, or the Grape Stones, or old Grape Cakes, beat in Pieces, and lay them to the Roots of your Vines, it will occasion them to bear much sooner than otherwise. So likewise the Sea-Onion, laid to their Roots, will produce the same effect.

OR, if you would have Vines bring forth Grapes, later than their common Season, when you find them set, and that they have put forth their young Bunches, nip them all off with your Fingers, so shall you effect your desire, for the Vines will shoot again, and the Fruit be consequently so much later.

THE Experiment, related by *Democritus*, for procuring Grapes, without Stones, is on this Manner. If, says he, you take a Branch or Twig of a Vine, and cleave it just in the Middle, and with some proper Instrument, made of Horn or Bone, scrape out all the Pith, so far as you plant the same into the Earth, and presently binding up the Parts again, with Paper, very tight and close, and making a Trench in some moist and proper Soil where you may conveniently plant them, binding it up to some Post or strong Stake, that it may not be twisted with the Wind, before it is firmly united, the slit will soon close, and the Sides grow together again; but if you put into the hollow
Part,

Part, from whence you took out the Pith, the Head or Clove of a Sea-Onion, it will be better, for that is of so glutinous a Nature, that it not only nourishes, but likewise binds and cements the Sides together like Glew.

THEOPHRASTUS also confirms the same, by saying, If you rob the Vine Branch of the Pith that is in it, whereof the Stones are gendred, you may procure Grapes without Stones.

ALSO Columella affirms the like, saying. If you would have Grapes without Stones, you must cleave the Vine Branch, and take out all the Pith; but so that the Buds be not hurt thereby; then joyn it together, and plant it in the Ground; moisten and water it very well, and when it begineth to shoot up into Slips, you must dig about it very frequently; and when it cometh to bear, it will produce Grapes without any Stones.

PALLADIUS also describes the same in the like Manner; and ascribes the Invention to the Greeks; who, he says, assist Nature, by Art, in the Attainment thereof.

PLINT, speaking of this Method, saith, it will produce Grapes that have no hard Kernels in them.

SOME will, perhaps, object, that a Tree cannot live without the Pith; but the same has been experienc'd to be a manifest Error, not only in Vines, but in other Fruit Trees; also *Democritus* and *Africanus*, both affirm the same Experiment to have been try'd upon Cherries and Pomgranets with equal Success.

JOHANNES

JOHANNES BAPTISTA PORTA saith, that if you will Engraft a white Vine into a black, the same will produce red Grapes, and mentions to have try'd the Experiment several times; upon those call'd Honey Grapes, or Greek Grapes; and that the Grapes have yeilded a blackish Liquor, or Juice, and says, the oftener such Grafting is practiced, the blacker the Liquor will be; and that in and about the Mountain *Vesuvius*, the white Wine Grape growing upon her own Stalk, and Engrafted into the Greek Vine, yeilds a much more high colour'd Wine than others do.

PAXAMUS tell us, that if we would have Vines to smell sweetly, or the Grapes to be perfumed, that if the Branches are cleft, and sweet Ointments or Perfumes poured therein, when they are Planted, both the Vines, and Fruit, will tast and smell accordingly; some have Practiced it by steeping, or soaking the Branches, in sweet and perfumed Oyles, before they are Planted, or Engrafted; also an other Way is related by *Johannes Baptista Porta*, of his own Experience, viz. to steep the Branches in Rose Water, before the same is Planted, in which Musk has been infused.

AMONGST the many Experiments that have been practiced in former Days, none is more surprising than those that have been Invented by the Antients formerly; *Theophrastus* tells us, that about *Heracia* in *Arcadia*, there was a Wine, of which if Men drank they became Mad, and if Women drank of the same, it made them Baren; the same, *Athenæus* saith of the Wine of
Troas

Troas a place in *Greece*, and that in *Thrasus*, there is a sort of Wine, which being drank procureth Sleep, also *Florentius* advices the Planting of Medicinal Vines, which may be good against the biting of Venemous Beast, in this manner, take a Vine Branch, cleave it to the lower part near the Root, that the cleft may be about four Inches long, pluck out the Pith, and instead of the same, fill up the Cavity with Helibore, bind it up close, and cover the same with Loom or a Sea Onion, and bury it in the Earth, it will grow and produce Grapes, that if eaten, shall make the Body Soluble; or if you would have the Grapes more Operative in this kind, instead of Helibore, put in some Antidote or Counter Poison, then set it in the Head of a Sea Onion, and cover it in the Earth, watering it frequently with the Juice of some Counter Poision, that the Vine may draw in the greater plenty of that Liquor, and the Fruit will be the stronger in its Operation.

PALLADIUS says, if you take a Vessel half full of Hippocras, or Conserves of Roses, or Violets, or Wormwood, with the Earth that grows about the Root, of those Vegetables, and mix them together, making a sort of a Lye thereof, and thereinto put Vine Branches, letting them continue therein, until the Branch that grows from the Bud, begineth to bear Leaves; that then if you take them away, and set them out in such Ground where you intend them to continue, they will bear Fruit, according to your Expectation.

If you would have Grapes that shall be Purgative, do thus, after your Vintage is over, uncover

cover the Roots of so many Vines as you think proper, take some Helibore Roots, and beat them in a Mortar, and cover the Roots of your Vines therewith, having first Trim'd and Prun'd them, cover them with a mixture of old rotten Dung, Ashes, and twice the Quantity of Earth, this will produce a Grape for your purpose, if you make it into Wine, mix a Cup of it with Water and drink it, it will answer your Expectation.

PALLADIUS directs the preservation of Grapes in this manner, *If, says he, you would preserve Grapes long, choose such Branches as are ripe, but let there be neither green ones, nor rotten ones, dip the ends of the Stalks in melted Pitch and hang them up in a moderate warm Room, they will keep a long time.*

BUT if you would have your Grapes continue upon the Vines all the Winter, or until the next Season, do this, chuse out some of the best and fairest Branches of Grapes growing upon a House Vine cut them not off, but loose the Branches from the Wall, and gently wind them in at a Window or other conveniency and bind them up to the Ceiling of the Room, where they may continue without bruising, so shall they last all the Season, until the next Year, that new Grapes come again, when you may have the Pleasure to see, both old and new Grapes, growing upon the same Vine, at the same time.

ANOTHER way is this, in the beginning of the Season, choose some of the most promising Branches of your Vines, before the Grapes set, and being provided with Earthen Pots, each with a hole in the bottom, through the
said

saïd Holes, draw the Branches of your Vines, then fastening the Pots to the Wall, so as to prevent both their breaking and falling, fill the same with the best light warm Mould you can procure, so that the Branches coming through the Posts, will seem to grow therein, let them continue in this Manner, (taking care to water the same) till the Grapes are almost ripe, then cut of the Branches close to the bottom of the Pot, and anoint the place where it is cut of, with the Sea-Onion, and taking down the Pots from the Wall, with the Branches and Grapes growing therein, carry them into some warm Room, where let them continue, the Vines will take Root, and grow in the Pots, and the Grapes will continue fresh and fair, upon the saïd Vines till *August* following, if you are minded to let them hang so long.

SOME of the Antients, have directed the digging of Pits, or Ditches near the Vines, and bending down the Branches of the Vines therein, to let the Grapes hang in the same, covering them over from the Wet, however this way has not been found to answer what they propos'd from it, Experience has show'd that the Grapes have been half rotten, and quite faded in colour; a manifest cause thereof, has been occasion'd by the Dampness and Coolness of the place, which notwithstanding its being cover'd from the Rain, still yeilds a Moisture and Dampness, which occasions them to rot and decay.

ANOTHER, and a better way than this last Mentioned, and which may be effected with very little trouble; in this, take a Box or Case, let the same be well Pitch'd within, and strew therein the

the dry Powder, or Dust of the Pitch, or Firr-Tree, or the black Poplar-Tree, or else the Flower of Mellet well dryed, and therein lay the Grapes, observing that the Grapes are all sound and ripe, without any Dew or Moisture upon, if there be the least Dampness upon them, they will grow Mouldy and decay, then cover the Grapes, by strewing more Saw Dust, or Millet Flower upon the same, being first well and carefully dry'd, then lay in more Grapes as before, covering them again with Dust or Flower, in the like manner, after which close down the Lid of your Box, the inside being Pitch'd, and stop it close, by Plastering it all over with Loom, or Mortar, and set them in a dry place.

COLUMELLA saith, that if you take the great Tear Grape, or the hard skin'd Grapes, or the fair Purple Grape from the Vine, and dip their Stalks in melted pitch, then taking a new Earthen Vessel, and putting in some dry Chast well sifted from Dust, and laying your Grapes therein, as is above directed, having an Earthen cover to your Vessel, put the same thereon, and stop it close with Loom, or Mortar, to keep out the Air, and set them in some dry place, letting them stand until such time as you think proper, to open them for your use.

Also the hanging up of Grapes in a Malt Loft, preserves them, for the Malt Dust which ariseth from the frequent stirring thereof, settling upon the Grapes, keeps them from decaying.

CASSIANUS tells us, that if we put Beet Roots, bruised into Wine, in three hours time it will become Vinegar, on the contrary he adds,
K. that

that when he had a mind to restore the same, he put in some Cabage Roots, and the same was quickly turn'd into good potable Wine.

HAVING thus far treated of the Vine; and the Fruit thereof; We shall now proceed to say, some thing more fully of the Liquor made of it, and the proper Methods to remedy its defects.

OUR Ancestors have found out many remedy's to preserve Wine, nor have their Descendants been less diligent in their Endeavours. *Paximus* tells us, that about the solstice Wine, will grow sower or dead, so in extreem Hot or Cold Rainy or Windy Weather, or when it Thunders; *Africanus* gives us divers Signs and Tokens, by which to know what Wines will corrupt; The smelling to the Lees, will discover the goodness and strength of the Wine; also by taking a Cup of the Wine, and heating it and tasting it when Cold, a strong Taste is a good sign, a Watery one but a bad one, Sharpness a sign of Duration, Weakness of its Corrupting.

IF the Wine be weak, it will presently corrupt, for the warm Air soon draws out the Vital and Spirituous part, to remedy this Defect, apply a Quantity of Aqua-Vitæ, for that is restoring a new Soul to it.

IN the Summer Solstice, if you find your Wine grow to hot, and are apprehensive the Spirit will Exhale thereby, take a pound or two of Quicksilver, put it into a glass Bottle, stop it close, and let it down by a String into your Cask, the coldness of the same, prevents the Spirituous

rituous parts, from Exhaling by the heat of the Weather.

Also the putting of Oyle upon the Wine, prevents the Spirits from Evaporating, as we see is done in *Florence Wines*, and in some other Liquors.

FRONTO tell us, that if the Wines be foul, if we put three Whites of Eggs, into a large Earthen Dish, and beat them, till they froth, and then put a little of the finest white Salt to them, they will be exceeding Fine, then pour them into a Vessel full of Wine, the Quantity of Salt to the white of each Egg, is an Ounce, and the proportion in Quantity to the Quantity of the Wine, is sometimes more or less, according to the foulness thereof, generally half a dozen Eggs to a Vessel of ten, or twelve Gallons of Wine, when you put this into your Wines, stir it very well together in the Cask with a Stick, that it may incorporate and mix with the body of the Wine, and it will be fine in four or five Days at farthest, for there is a certain property in the whites of Eggs, to clarify and make all thick Liquor clear.

So is there in Salt, to keep things from corrupting, therefore if you mix to one Ounce of Salt, one ounce of Allum, and incorporate it into your Wine, it prevents its corrupting, also Brimstone hinders its putrefaction, therefore it will be proper to mix four Ounces of Salt, four Ounces of Allum, and four Ounces of Brimstone, together.

It has been practiced formerly amongst the Antients, to preserve Wine, by adding Salt, or Sea Water to, and it would continue a long time.

COLUMELLA teacheth, to take Sea Water out of the deep and still Sea, and boyle it away to a third part, adding some Spices thereunto, and mixing it with the Wine, in order to prevent its putrefaction.

THERE is a Method practiced by our Vintners, and Wine Coopers, in curing their Wines, which is in daily use and practice, although the Method is hardly known to any, but themselves, which is when their red Wines are Prick'd and Eagre, to discharge the colour of them, and make them white Wines, which they do in this manner.

TAKE three or four Gallons of new Milk, let it stand till it Creams, skin it off clean, let it stand till it creams again, and skim it; do this so often till no more Cream will arise thereon, and the remaining Milk will be of a bluish Colour; then take the Whites of about eighteen or twenty Eggs; beat them very well; mix them together, and incorporate them with the Milk; then pour the same into your Cask of Wine, and with a Stick, which will reach almost to the Bottom thereof; stir the same well, as quick as you can, for six or seven Minutes together; stop it up close, and let it stand, the Red Colour will all sink with the Lees, and a clear White Wine remaining, if the Body be too weak or faint, it may be reviv'd or recover'd with *Aquavita*, Spirits of Wine, or some other proper Mixture to strengthen and invigorate the same.

HAVING

HAVING treated thus largely of all Things necessary to be understood, relating to the Planting, Manuring, Pruning, and Dressing of Vines, Keeping and Cultivating a Vineyard, Making and Drawing of Wines, with the Managing and Curing thereof, and enlarg'd the same, by adding several Experiments, both Pleasant and Profitable for the Entertainment of the Curious. I shall here conclude all that I have to say upon that Head, with this Advice to those whose Opportunities will permit them to try the Experiment, that there cannot be a more advantageous nor profitable Undertaking set on Foot, than the planting of Vine-yards, if carefully manag'd according to the Method and Directions herein prescrib'd, nor any that will return such an immense Profit.

IT is reported of *Solon*, the *Melesian* Philosopher, that he only, by his Natural Skill, and Observations of the Temperatures of the Climate, perceiving the approaching Season to be a very unseasonable One, insomuch that he apprehended the Fruit of the Olive Trees would be destroy'd thereby, which must naturally enhance the Price of that Commodity; he took the Advantage of the plentiful Season to purchase and contract for such Quantities, as were to be had at a very low Price. When the approaching Season proving according to his Expectation a very unseasonable One, the Price of that Commodity was so much enhans'd, that as his fore-sight gave him the Reputation of being the wisest Man, the Consequence of his Bargain render'd him the richest Man amongst the *Milesians*.

AND if so easy a Matter as that was capable of giving so much Advantage and Reputation to

any Person how much more in the Affair before treated of, might it not be as easy for those Persons, whose Circumstances would admit them to put in Practice what is before prescrib'd, to purchase to themselves immense Fortunes, by timely embracing the Opportunity, and an early Application to the Methods here in before directed.

It was a receiv'd Opinion of our Ancestors, that divers Plants grew of their own accord, without being sown. They maintain'd, that divers Sorts were generated of the Earth and Water mix'd together; and that particular Countries were productive of divers Sorts of Plants and Vegetables. It was the Opinion of *Diogenes*, that Plants were generated from putrified Water and Earth. And *Theophrastus* held, that the Rain, by causing much Putrification and Alteration in the Earth, was the Occasion thereof, the Sun working upon it, by its Heat and quick Operation. So they reported, that in the Isle of *Crete*, the Ground was of such a Quality, as that, by only stirring it about, it would naturally produce a *Cypress* Tree. *Pliny* held, that the Waters falling from above, are the real Cause of every thing that grows upon the Earth, Nature therein shewing her admirable Works and Power. And some of the Antients have given us many Instances of their Experience of Earths fetch'd from divers Places, which being kept separate, have produc'd divers Sorts of Herbs, Weeds, or Vegetables, without sowing; whereby they would infer, that the Earth had naturally the Seeds of those Vegetables in itself, or rather without Seed, was productive of, and prepar'd to put out such particular Sorts,

WERE we strictly to examine into the Truth of these Relations, we should be convinc'd of the Falacy of the Assertion. I will not deny, but that Earth may have been fresh dug out of a Pit, which being laid separate from any other, may have produc'd divers Sorts of Vegetables, without sowing; but might not these Seeds, which produc'd these Vegetables be, by some Accident, scatter'd in the Earth before, there are some Seeds of such a hardy Nature, that they will retain their Virtue many Years; and if, by any Accident, they should be buried in the Earth so deep, that they could not have the Benefit of the Air, Rains, &c. to enliven them, and cause them to shoot, they must rot and perish for want thereof, unless their Nature is so strong as to prevent their decaying.

AN Instance we see daily in Mustard, and several Sorts of Garden-Seeds, which being sown, some of it shall continue in the Ground, altho' expos'd to the Wind, Rain, and Sun, for many Years before it will shoot, even till the same Ground has been dug and turn'd several times over, the unctious Quality thereof, preventing its decay; how much more then may it be preserv'd, if the same be buried at such a Distance in the Earth, as not to be expos'd to, or affected, by the Inclemency of the Weather.

ADMITTING it therefore, as an undeniable Maxim, that all Vegetables, Plants, and Trees, had their Originals, from whence they sprung, agreeable to what the Scripture teacheth us, that God created EVERY TREE and EVERY HERB of the Field. We are not to expect that the Earth will daily put forth new and fresh Species of its

own accord, unknown to ourselves, or our Ancestors.

ART may indeed assist, and in many Instances improve Nature, as we daily see in the numberless Experiments that have been, and are daily produc'd in the Planting, Grafting, and Pruning of Trees; by which, almost a new Species are daily produc'd. *Diodoris* tells us, that, at first, the Vines were but of one Sort, and that originally Wild; but now, by the various Improvements that have been made in Planting, transplanting into various Soils, by Buding, Grafting, Inoculating, and Intermixing, there are so great Variety, that it were an endless Labour to pretend to enumerate them all. So Nature originally brought but forth one kind of Pear; but how many various Sorts has Art since midwifed into the World. The continual Improvements still adding to their numberless Sorts; and honouring the Proprietors, by bearing their Names, shews us the time we are to look back for their Origine. Amongst the Romans, the Pears called *Decumana* and *Dollabelliana*, from *Decumius* and *Dollabella*, were Famous; so were the Figs of *Livy* and *Pompey*; nor less Famous were the many kind of Quinces; some of which, from the Improvement added, by *Marius*, were called *Mariana*; others from *Manlius*, *Manliana*; from *Appius*, *Appiana*; from *Claudius*, *Claudiana*; and from *Cestius*, *Cestiana*; with Thousands of other Sorts, which later time hath produc'd, whose Variety have render'd the Authors Names Immortal. *Pliny* tells us, the Laurel and Cherries were not produc'd before his Time. And *Athenius* tells us, that in the Days of *Theophrastus*, the Citrons were too Sharp to be eaten, but by the Culture and Improvement

Improvement of *Palladius*, they were render'd Sweet and Pleasant.

NOR have we in this Country been of late Years short of the antient *Romans*, in our Improvements of all Sorts of Fruit. The Variety of Apples, Pears, Plumbs, Peaches, Apricots, Nectarines, and Quinces, which were not known, nor heard of before Yesterday, in Comparifon, are Instances of the Advancement made daily in the Art of Agriculture, and Husbandry. Yet can we not fuppose, that this Art is arriv'd at the highest Perfection? There are Numberless more Improvements which might be made, and of much greater Benefit than those hitherto practis'd, the Art of Buding, Grafting, and Inoculating, comparatively, being but yet in its Infancy.

As to the Manner of Grafting, Buding, and Inoculating, I need say little, the common Practice being so well known, that it would be in vain to pretend to mention it, or direct the doing of what almost every Child knows.

BUT shall mention an Improvement which would be of great Service in that Art, which is, that if our Gardiners and Nursery-Men, instead of covering the Head of their Stalk, on which they graft, with Loom, would bind it up with a Sea-Onion, they would find it would succeed much better; because that being of a fat, glutinous Consistence, binds very strongly, and at the same time feeds and cherishes the Graft, and defends the Stock from any Inclemency of the Weather.

THE Grafting of Vines was a Practice formerly very much in Use, by Terebration; and is mention'd by *Virgil* in his *Georgicks*, which was attended with very good Success, to their great Improvement. Fruit-Grafting in Plants, being the same that Copulation is in living Creatures. There are indeed other Ways of raising the several Species of Fruit, but the common Way of Grafting, being the most ready, and which soonest produces its Effects, is most practis'd, because it is a sure Way of incorporating one Fruit into another.

BUT in this Practice the Ingenious or Curious are not to be discouraged, by the Ignorance of those Pretenders, who will assert, there can be no other Improvements discover'd, more than is in daily Practice. There are Numbers of indolent Wretches, who tho' they may be skill'd in the practical Part of Grafting, according to the common Method, yet are so dull as never to offer at the easiest Improvement whatsoever.

LET the following Rules be observ'd in Grafting, and an ingenious Person may produce a numberless Variety of new and uncommon Fruits.

FIRST see that the Tree, from which you would Ingraft, be with respect to the Bark of the like Nature as the Stock; that is, if the Graft be of a moist Nature, the Stock must be so too; but if the Stock be hard and dry, the Graft must be so likewise; otherwise, the Graft requiring more Nourishment than the Stock can yield, it will languish and die; on the Contrary, if the Stock be too moist, and the Graft too dry, the Stock will
throw

throw up its Juices so fast, as either to choak the Graft, or to branch out below it, so shall your Fruit be spoil'd and good for nothing.

YOU must observe, that the Grafting is to be made in the best and firmest Part of the Stock; where there is neither Knots, Scabs, nor Tumours, nor has been blasted, but chuse such Stocks as are young and vigorous, and like to bear the Weather.

YOUR Grafts must likewise be taken from the youngest, best, and most promising Trees, and from the Eastern or Sunny Side thereof, those being the most vigorous and lively, and bearing the best Fruit.

FOR observe, that if you take your Shoots from old Trees, they will not have Strength enough to draw their Nourishment from the Stocks; so likewise, if your Stocks be old, and your Grafts young, they will very rarely unite or come to Perfection. What will be most agreeable, is, that your Shoots and Stocks be as near as possible of an Age, the Shoots of the second Year are best for Grafting, and should be taken from the Tree, just when they are beginning to bud, and before they have born any Fruit.

IN Grafting, this is carefully to be observ'd, that the Loom or Glew, which is bound upon the Head of the Stock, be carefully laid on; for if the same be loose, and chop, or peel off, so that the Wound upon the Stock, or the joyning of the Graft thereto, be expos'd to the Weather, the same will fade and die away.

WHAT

WHAT is commonly used, by our Gardiners and Nursery Men, for this Purpose, is a kind of clayie Loom, which they temper up for their Use, and frequently bind the same on, with Cloths or Paper, to prevent its falling off. This is always ready at hand, and therefore prefer'd; because to be had without any Trouble, and from its frequent Use, is, by most, believ'd to be the only Composition or Mixture for this Use. But were the Practice of the Antients examined into, it would be found they had recourse to much better Methods.

FOR from the Barks and Rines of Trees they drew a clammy, unctious Matter, much better and fitter for this Purpose, which not only answer'd the Ends, but fed and nourished the Graft, and heal'd the Stock, whilst, at the same time, it either dulcified or harden'd the Fruit, according as the Matter it was compos'd of.

THIS Preparation was made in the following Manner. They took a Quantity of the Rines of Hollies; and having made a Hole in a moist Place, in the Ground, they threw the same in there, covering them over to keep out the Rain; and letting them lye thus for the Space of about twelve Days, in which time they would putrify, and being then beat together, would become a sort of a clammy Consistence, or the common Bird-Lime, will do the same, when binding your Graft to your Stock with this, the same if you had instead of graft, will cherish the same.

BUT a Preparation drawn from the Rines of Elm-Tree Roots, in this Manner, is the best and fittest for this Use, as being the greatest Nourisher, and

and hath a special Quality in it to feed and cherish both the Stock and Graft.

IF instead of laying your Rines or Barks in a Pit, you lay the same upon a moist Cellar-Floor they will putrify, only they will require a little longer time.

THE same may likewise be done with the Rines or Barks of other Trees; but let them be taken off from the Trees as near to the Roots as possible you can, for those will bind the better; the Tops are too watery.

AND this glewey Consistence, drawn from Trees of the same Nature with those you graft, is much the best, as being agreeable thereunto, and yeilding a great Supply of the richest Juices.

THIS would very much help and forward the Growth of any Trees, were the Bark or Rines strip'd from your Cuttings, Lopings, or Trimmings, and buried at the Roots of those Trees, you would improve; for the Juices being already concocted, yields a fresh and vigorous Supply of the finest and best Nourishment; and occasions the Fruit to come in much greater Quantities and larger than it would otherwise.

OR if the Roots of the Trees be anointed with the prepar'd Consistence, as before directed, it will occasion their Bearing, in a very extraordinary and plentiful Manner.

HAVING given these general Directions to be observ'd in Grafting, I shall now proceed to mention several curious Experiments both antient and

and Modern for improving of Trees, and producing a new Variety of Fruit, whereby our Orchards and Gardens shall exceed even those of the *Hesperides*, *Alcinus*, *Semiramis*, or *Memphis*.

IT is the common Practice of our Gardiners and Nursery-Men to graft their Fruit-Trees upon Crab-Tree Stocks, Black-Cherry Stocks, and such like; The reason they give for so doing, is, that those Stocks being more hardy, are better able to endure the Weather, and the Graft being inoculated into them, takes the more kindly these Juices, it draws thro' the Stock, being fitter and more prepar'd for its Nourishment, than if drawn directly from the Earth.

AND say they likewise, if we sow or plant the Seed or Fruit of the same Species, we desire to have, the Produce will degenerate; and instead of Apples, we shall only have Wildings, and so of any other Sorts.

AGAIN, that could the Seed produce Fruit equal in Goodness, to what is sown and planted, the Trees would not be so durable and lasting.

EACH of those Objections, I shall in some Measure admit, notwithstanding which, shall decry the common Practice, as disagreeable to Prudence; and endeavour to support my Assertions by the strongest Arguments and Reasons.

WHEN our Nursery-Men would raise a Quantity of Stocks for grafting upon, they sow the Seeds of Crabs, Quinces, or the Stones of Black Cherries, &c. and that these will bear Fruit of the like Species, is certain; but the same shall however be even

even more Acid, Tart, and Hard, than that of the Parent Tree from whence the Seed came, if the same be suffer'd to bear without grafting.

Now if instead of the Seeds of Crabs, Quinces, Black-Cherry-Stones, &c. of a worser Species than the Fruit we desire to procure, they would sow the Seeds of the Codling Tree, or other Fruit of the Species and Goodness, they are desirous to procure or preserve, they will by Experience find, that such Fruit as these Stocks thus rais'd shall produce without Grafting, will be more kind, mellow, and racy, than the Crabs, &c.

I READILY admit they do not come up to the Goodness of their Original; but the Method to improve the same, is thus.

WHEN these Stocks are grown to any Bigness, fit to be transplanted, let them be removed into a better Soil, if possible; at least let them be cultivated with as much Care as you can, till they are fit for grafting, when at the proper Season let them be carefully inoculated with the choicest Fruit or Grafts you can procure, of the Species you would have; and with a little Pains and Care in the Management thereof, you will find, by Experience, that the Fruit which is produc'd from these Stocks thus grafted, will be far preferable to any which you could have produc'd in the common Manner, even to excel that of the Tree from whence the Grafts were taken.

FOR is it not absurd to suppose the Fruit must not in some Measure partake of Nature of both Parents of the tart, acid Flavour of the Crab-stock,

Crab-stock, as well as of the more improv'd and preferable Taste of the Apple, &c.

If an *European* Woman match with an *African*, common Experience shews us, their Offspring are a mottled Production of what we call Tawnies or Molettoes, and must we not expect the same in Fruit, or any other mix'd Production.

As to the Objection, that the Trees thus grafted are not so hardy to endure the Weather, that is altogether Groundless. This indeed I admit, they may not, perhaps, last altogether so long as those that are grafted on a Bastard-Stock; but that Disadvantage is sufficiently recompenc'd, by the extraordinary Goodness of the Fruit, and the Quantity produc'd, as being a more free Nourisher, and of a more prolific Nature.

A N Experiment has been try'd with unexpected Success, by grafting upon one of these Stocks. And when the Graft has been grown to a Bigness proportionable to bear it, by regrafting it again or grafting upon the Graft; and the Fruit produc'd thereby has been of a surprizing Goodness and Flavour, and far exceeding any other Sort.

THESE Methods I would advise to observe in the raising of Stocks and Grafting.

First, THAT the Stocks should be raised from the natural Seed of the Fruit I would procure, and not from any bastard or baser Sort.

Secondly, THAT of such Fruits as are choice, and would bear sliping, I would raise a sufficient Quantity

Quantity of Stocks from the Slips, and when of a Growth sufficient, to graft upon them.

Thirdly, To transplant the Stocks before they are grafted, into a better Soil, if it may be, and bestow a little Tillage upon them; for the digging and turning of the Earth about the Roots improves them very much, as it supplies them with new and fresh Juices, and permits the rank and offensive ones to evaporate, which must otherwise be drawn into the Trees to the prejudice of the Fruit.

Fourthly, AFTER your Stocks have been thus carefully rais'd, managed, and transplanted, then inoculate thereon the choicest Grafts from the best Fruit Trees you can procure. See that the same be not too old; and that they be well inoculated: And if instead of plaistering them up with Loom in the common Manner, you bind on the same with some glutinous Consistence, prepar'd from the Bark, Rines, or Pillings of some old Trees, Branches, or Loppings of the like Species, with the Grafts and Stocks you inoculate upon, as is before directed, you will find it will have an extraordinary Effect, and succeed beyond Expectation.

LET the Stock you graft upon, be of a very prolifick Nature, such as is the Cedling; for the more prolifick it is, the greater Quantity of Juices it will throw up to the Graft: Besides the Codling is a very forward Fruit, and soon ripe, and the properest to graft upon, for *Summer* Fruit especially; for the prolifick Nature thereof hastens and accelerates the Growth of whatever Sorts shall be grafted thereon.

If you would have your Fruit of the same Species later than ordinary, graft upon the Stocks rais'd upon the *Winter Queening*, the *Winter Pippen*, or such other latter sort of Fruit.

If you chuse to have it at the usual Season, then graft upon the natural Stock, rais'd from Seeds of the same Species with those you would procure.

Thus may you on several Trees keep Fruit of the same Species, and have it ripe and fit for the Tooth, for several Months together.

Also you may alter your Fruit as much as you please, by grafting, inoculating, or buding upon divers Sorts of Stocks; or by compounding your Grafts of several Sorts, whereby as well the Colour as the Smell, and Taste will be chang'd.

The Fig-Tree may be grafted into the Mulberry-Tree; so on the contrary may the Mulberry be grafted into the Fig-Tree, and the Fruit will be variable.

Also if you graft the Mulberry or the Fig-Tree into the Chess-Nut-Tree, or the Turpentine-Tree. And 'tis said, by several of the Antients, that if you graft either the Mulberry or Fig Tree into the White Popler, it will take very kindly, and produce White Figs, or White Mulberries.

In the same Manner likewise the Chest-nut or the Hazel may be grafted into the Oak.

AND

AND the Pomgranet may be grafted into any other sort of Tree; for its Nature is such, that it will take upon any kind whatsoever.

THE Ingrafting, Inoculating, or Buding of Fruit, improves the same; so does the frequent shifting and removing of the Trees, and digging about their Roots: Also the opening the same, and burying Blood, Lees of Wine, rotten Grass, Weeds, Chaff, and any sort of Vegetables; for the nitrous Particles drawn therefrom, wonderfully cherishes, strengthens, and invigorates the same, and rectifies the more crude Juices of the Earth.

AN Experiment has been successfully try'd to raise Stocks without sowing the Seed; and which answers Expectation much better, and is perform'd in the following Manner.

TAKE a low Tree of any Sort that you desire to propagate, whether it be a Cherry's, Apricot's, Peach's, Nectrine's, Cornelian's, Mulberry's, Figs, Vines, Roses, or any other Sort, open the Root, so that you may bow down the Tree to the Ground; having first hollow'd the same conveniently to receive it, spread the Branches on the Earth singly, and the Twigs likewise cover the whole with fresh Mold, leaving the Tips of the Twigs only to peep out. Thus let them lye for some time; every Twig will shoot out Roots and Fibres into the Earth, and take Root there, let them continue for some time until they grow to Maturity, fit to transplant; then cut them off and plant them out for Stocks, they will prosper very well.

THESE ARE THE SEVERAL MANNER

THESE Stocks thus rais'd will bear very well without grafting; yet if you afterwards graft them they will produce much richer and finer; and are much better than Stocks rais'd in the common Way, tho' grafted ever so carefully.

Francis Lord Verulum, teacheth us in his *Natural History*, a ready Method, whereby in one Year's time we may procure a Fruit-Tree capable of bearing good Fruit; which he directs to be done in this Manner.

CHUSE, says he, in May, June, or July, a fair, promising, fruitful Tree, and select one Arm, such as you best approve of, about three or four Inches in Circumference; cut the Bark round, near the Bottom of the Branch, and take it off for about four Inches in length, quite round; then having in Readiness a Quantity of Loom and Horse-dung, well mix'd and temper'd together, cover the Place with a Coat thereof, quite over; as also some little Part of the Bark, both above and below the bare Place; (or if you mix the Loom with some Sea-Onions, well beat or bruis'd in a Mortar, will be yet better) bind on the same with a course Cloth, as close as you can to prevent its falling off, or cracking, letting it so continue, till about Allhallontide; at which time you may cut it off, thro' the Place which was bark'd, and set it in the Earth, it will in one Year produce a fine young Tree, and bear Fruit according to your desire.

It is the common Practice of our Gardiners and Nursery-Men to cut off the Trees they graft below the Head, and to inoculate upon the main Stock. But if instead of that Custom they would

would take off the Branches just above the Head, and graft upon the remaining Part of the Stock of each Branch, they would find their Fruit equally as good, and it would be produc'd in much greater Quantities.

BUT the most curious Way would be this: Chuse one of the best Stocks, rais'd from some choise Tree itself; when it is fit to graft, take off the Head, inoculate the Stock with the finest Graft you can procure; or for Variety, if you mix the Graft, by slitting or gently bruising the same, as has been before directed, in respect to Vines, and joyning it to another Graft, slit or bruised in the same Manner, of some choice Fruit of any other Species. Suppose the one were a *Summer Pippen*, and the other a *Burgundy Pear*, or any other Sorts, and carefully joyning the same, inoculate them into the main Stock, bind them up carefully with the Sea-Onion bruis'd and temper'd up with Loom; when they have stood some time, and shot out several Shoots or Branches to a Maturity sufficient, cut each of them off about six or seven Inches distant from the Head; inoculate them severally again with the choicest Graft you can procure. And if, for Variety, your Grafts are all of different Sorts, your Satisfaction will be the greater to have many choice Sorts of Fruit from one and the same Tree.

IN this Method you may produce *Katherine Pears*, *Burgundy Pears*, *Windsor Pears*; *Codlings*, *Pippings*, *Queenings*, and divers Sorts of Pears or Apples from one Tree.

So likewise may you have Peaches, Apricots, Nectrines, *Mogul* Plumbs, *Orleance* Plumbs, and divers other Sorts, upon the same Tree.

AND *Palladius* tells us, that Trees are join'd together, as it were by carnal Copulation, to the end that the Fruit thereof may contain in it all the Excellencies of both the Parents; and the same Trees are nourished with two Sorts of Juices, and hath a double Relish, according to both the Kinds whereof it is compounded.

IN the Inoculation 'tis proper to consider, that the Grafts we would inoculate have their Barks of one and the same Nature, and are of equal Age and Growth, that they may the readier unite and join together; for if the one be hard and dry, and the other soft and moist, they cannot grow together.

FROM the Mixture of the Shoots and Grafts, as before describ'd, 'tis very common in the Orchards in *Naples* to see Fruits which are half Oranges and half Lemons. Also Lemons which are half Sweet and half Sower.

IN the same Manner also they procure Peaches which are half White and half Red, by joining the Sprigs of two contrary Trees, and inoculating them into one Stock.

Also Roses half Red and half White have been produc'd, by inoculating contrary Sprigs upon one Stock.

THE same Experiment has been successfully try'd in Flowers, particularly in Clove-Gilliflowers, with this Difference, that instead of grafting they take the Roots of two several Sorts, the one White, the other Red, and cleaving them carefully thro' the Middle, join the contrary Parts together, and bind them up with some fat Loom and Earth, or Sea-Onions, and plant them again, they will produce Flowers, one Side White, the other Red.

THEOPHRASTUS also teaches us another Way answerable to this, of grafting of compound Fruit, which is in this Manner.

*T*AKE, says he, several young Slips of divers Sorts of Pomgranets, bruise them well with a Beetle, until they will stick and hang together; then bind them up as close as possibly you can; and if you have join'd them carefully, without breaking them, they will unite and grow into one Stem, and bear Fruits of various Sorts; but each will in some Measure partake of the Nature of the other.

CHERRIES have sometimes been produc'd from a Willow Tree; so also has a Bay grown out of a Cherry-Tree, and the Fruit of each has been party coloured.

THE occasion of these Productions has been purely accidental, and not designedly; notwithstanding which 'tis very reasonable to believe, that if the same is to be produc'd by Accident, it may by Art be as well affected.

THE Manner of producing them, was only from the Birds; who having greedily swallow'd the Seeds of divers Fruits, and voiding the same with their Excrements, before they were digested, into the hollow Chinks and Holes of Trees, where some Quantities of Dust had before settled; the Rain afterwards falling therein, and moistening the same, occasion'd them to shoot forth; so that in time, as they increas'd in Magnitude, they have incorporated, and grown into the Tree.

I HAVE myself, for Experiment sake, taken a young Gooseberry-Bush; and after trimming the Root, made a Hole, with a sharp Stick, in the hollow rotten Part of a Pippen-Tree which was decay'd by the Weather, where the Arm had some time before been lop'd off, and thrusting the Root of the Gooseberry-Bush in the Hole, afterwards plaister'd it up with Loom, till it settled; and it has liv'd there, and afterwards bore Gooseberries, tho' smaller than it usually did before, whilst the Tree has born its natural Fruit.

THE Occasion of the Smallness of its Fruit, I take to proceed from this: That the Juices of the natural Tree, being of a Nature different from the Gooseberry, and the Gooseberry being also a very great Drawer, the Tree yeilded not so great a Quantity of the proper Juices for its Support, as the Earth would have done, especially at first, the Contrariety of Nourishment yeilded by the one, and required by the other being so vastly different, that till, by incorporating, there grew a better Harmony betwixt them. The
Fruit

Fruit of the Goosberry must be smaller, and in less Quantities than otherwise; tho' by Continuance of time there would grow a better Reconciliation and Harmony betwixt them; when the Goosberry would thrive better, and grow larger, and in some Measure vary in its Taste from what it naturally had before.

PONTANUS directs the raising of compound Trees or Stocks in this Manner: *Take, says he, Seeds of several Sorts, sow them in a Pitcher, or such like Vessel; let them continue there, until they are grown up, which as they do, gently twist and bind the young Shoots together, and let them be close tyed, bind them well with Loom, or glutinous Matter, that may help them to incorporate. By this Means they will unite into one Stock, and be cover'd with the same Bark, and the Fruit will be variously relished.*

THE Reason of the same must be, that the twisting the young Shoots bruises the Barks or Rines, which occasions the Juices to incorporate, and the binding them up keeps them from separating by the Wind, or any other Accident, until they are firmly united, by this Means a Mixture of the Juices is occasion'd, tho' in some Parts more, in others less; according as the same have mix'd in twisting.

THEOPHRASTUS, and several of the Ancients likewise, direct the same to be done, by sowing various Sorts of Seeds together, and uniting them in the same Manner, affirm, they have practis'd the Method with Success.

JOHANNES

JOHANNES Baptista Porta affirms to have rais'd a compound Fruit of the Damson and Orange, or Lemon, which has participated of both Kinds, which was rais'd in the foregoing Manner.

Also he affirms to have rais'd Damsons compounded of two Sorts, by choosing two young Trees of different Kinds, which growing close together, he pared off the Barks to the undermost Skin, for the Depth of six or seven Inches, near the Heads; then twisting them round each other so that they touch'd in the Places where the Bark had been taken off; after which he bound them tight together with the Film or Rine of the Elm-Tree to prevent their parting; after this he removed the Earth from about their Roots, and cover'd them with good Mold and Dung, to strengthen and nourish them the better; often watering them, within the Space of a few Years they were firmly grown together, as if they had naturally so done; then he cut off the Tops, in the Place where they seem'd to be most firmly united; after which there shot out from the Head many young Shoots; of which, those that he perceived to come from both Trees he let stand, the others he cut off; and by this Means procured Fruit according to his desire.

HAD he suffer'd all the Shoots to grow, the Fruit would have been various, these Branches which appear'd to be shot out from both Stocks, would have partook of the Nature of each; but those which had shot from the Sides, would have participated of the Nature of its original Parent.

WE have before describ'd the Manner of the Antients, raising the Fruit called *Elæo-staphylus*, or the Olive-Grape, by ingrafting the Olive-Tree into the Vine, and shall here add what *Florentius* says will cause a Vine to bear both Olives and Grapes at the same time. If, says he, you bore a Hole thro' the Stock of a Vine near the Ground, and draw thro' the same the Branch of an adjoining Olive-Tree, plaistering it up therein, but without cutting it off from the Root, so that it may unite with the Vines; from whence it will receive Sweetness, as well as Fatness, from its natural Root; the Fruit will tast pleasantly; and it will produce, not only Clusters of Grapes, but Olives also. And if the Vine were young before you bor'd it, and had not born Fruit, the Sprigs afterwards taken from it, and planted, will produce the *Elæo-staphylus*, or Olive-Grape.

THE Mirtle-Vine should be rais'd in the same Manner, by Terebration, if you would have your Vine both bear Grapes and Mirtleberries.

THERE is also a Way to raise a compound Fruit, called by the Antients, *Nuci-pruna* or Nut-Damsons, which is reported by *Pliny* to be rais'd, by ingrafting the Damson into the Filbert or Nut-Tree. And that it is peculiar to this Fruit only that it shall be in Colour like unto Damsons, but in Tast like Nuts.

PLINT tells us, the like may be done by ingrafting the Damson into the Sweet-Almond-Tree, which will produce a Fruit like Damsons, but having the Tast of sweet Almonds.

PLINT

PLINT also tells us of a Fruit, amongst the *Spaniards*, called *Malina*, which is a compound, produc'd, by grafting a Damfin-Tree into an Apple-Tree, the Fruit whereof is outwardly like a Damfin, but has the Taste of an Apple.

THERE is a Fruit, common in *Syria* and *Egypt*, by some called *Sebesten*, by others *Mixa*; which is a Sort of Damfin, having, a sweet Almond for its Kernel. This Fruit in the time of *Pliny* was common in *Italy*, and as such is mention'd by him, tho' the Species is now lost there, probably for want of Culture.

THIS Fruit he mentions, as usual, to be grafted into the Service-Tree, which render'd the Fruit the pleasanter. The occasion probably proceeded from this: That the Kernel of itself being too moist and sweet, occasion'd the Eaters to be laxative. Whereas, by being incorporated with the Service or Medler, it became more astringent.

JOHANNES Baptista Porta, after having decry'd many Things asserted by *Pliny*, and others of the Antients, tells us as of his own Experience, that if we will take the Bud of a Peach-Tree, and carefully join it to the Bud of an Almond-Tree, grafting it thereto: Or if we take the Bud of a Peach Tree, and likewise the Bud of an Almond-Tree, and join them carefully together; then graft them into a third Tree, or upon another Stock, they will bear a compound Fruit, which participates both of the Nature of the Peach and the Almond, and partake of the Nature of both Parents; outwardly it resembles a Peach both in Shape and Colour; but inwardly

ly it hath a sweet Almond for a Kernel; so doth the Tree itself likewise, resemble the Peach as well as the Almond.

SO, says he, if you join a Bud of a third Sort of Fruit to the others, the Product will be a triple Compound, and partake of the Nature of each Sort.

IN the same Manner, by joining the Bud of a Lemon to the Bud of Citron, has a compound Fruit been produc'd favouring, as well of a Citron as of a Lemon.

AMONGST the many Experiments which have been succesfully try'd, none is more delightful, as well as profitable, than that of frequent re-grafting or grafting upon the grafted Stock. And as it may be acceptable to the Reader, and serve to illustrate my Intention, by shewing the Variety of Fruit which may be produc'd; I shall recite several Experiments, which have been practis'd formerly.

CORELIUS, a Nobleman of Rome, engrafted a Ches-Nut upon a Ches-Nut; and by that Means procured a fine large Fruit, much larger than the common Sort. This Fruit, in Honour of the Experiment, he called after his own Name, *Corelliana*. After which, his Heir, willing to improve upon him, inoculated a Graft of the same *Corelliana* into another Ches-Nut. The Consequence whereof was, that the Product thereof was not quite so large as the *Corelliana*, but the Fruit was much improv'd thereby.

THE *Oxyacantha* or Barberry-Tree is suppos'd to be only a wild or bastard Tuber; and Experiments

periments have been try'd to improve the same; by frequent grafting it upon its own Stock; and the Success has so far answer'd, that every grafting has improv'd the same; both in Size and Sweetness; whereby it was not question'd by the Experiment of Grafting being continued upon the same Tree, the Barberry would in time produce Tubers.

THE Peach-Nut was a Fruit formerly in Request amongst the *Italians*, and was produc'd by frequently grafting the Peach into the Nut-Tree, its outward Colour was greenish, excepting on the Side next the Sun, where it was of a brown, redish Complexion, not downy, but very smooth, and of a very pleasant Taste; the Stone within was rugged like a Peach-Stone, and the Kernel within that, resembled a Nut in Taste.

DIOPHANES try'd the Experiment of grafting an Apple upon a Citron-Tree, which he several times attempted unsuccessfully; because it wither'd as soon as it shot forth; however at last he effected it, and it bore a Fruit partaking both of the Citron and the Apple; which by a compound Name he call'd a Citron-Apple; and *Dydimus* adds, that it will bear Fruit almost all the Year.

THE grafting of the Apple into the Quince-Tree was the Invention of *Anatolius* and *Diaphanes* and produc'd a Fruit which they nam'd *Melinela*. The *Athenians* call'd it *Melimelium*; and we call it a St. John's Apple.

AND *Pliny* says, by engrafting the natural Quince into the Quince-Pear a compound Fruit is produc'd

which he call'd *Milvianum*, which is the only Quince fit to be eaten raw.

IF a Pear be grafted into a Willow-Tree (but the grafting must not be into the main Stock, but betwixt the Bark and the Body) it will bear Fruit (provided it grow in a moist Place) but the same will be very backwards.

OBSERVE this as a general Direction: If you would have your Fruit larger than ordinary, either graft upon Stocks of the same Species with your Grafts, or upon those Stocks whose Fruits are naturally larger.

ANY Fruit grafted upon its own Stock produces a Fruit larger than it would have born, without grafting.

HENCE proceeds the Practice of grafting Pears upon Quince Stocks; but were the same re-grafted over again, they would improve both in Size and Goodness.

IF the Medler be grafted into the Quince-Tree, the Fruit will grow extraordinary large; the like if it be grafted into the Codling-Tree, and the Fruit will also be the pleasanter for it.

So, if the Mulberry be grafted into the Fig-Tree, the Fruit will vary something in its Colour, and grow extraordinary large.

THE frequent digging about the Roots of Apple-Trees causes them to bear better, and their Fruit to grow larger.

Also

Also the same has been observ'd of Citrons in foreign Parts.

LIKEWISE the frequent watering the Roots of Pear-Trees, Quince-Trees, Peaches, and Apricot-Trees, occasions them to bear more plentifully, as well as the Fruit, to be much larger than otherwise, a proper Moisture, being a great help to Vegetation.

'Tis a constant Observation, that those Trees which have the hardest Pith, produce either Stone or Shell-Fruit, in Hardness proportionable thereunto.

THUS the Almond, the Filbert, the Peach, the Apricot, the Nectarine, the Plumb-Tree, have all hard Piths; the Apple, the Pear, the Pomgranet, the Vine, the Mulberry, and divers other Sorts, have Piths, but not so hard, therefore the Kernels are soft. There are others which produce neither Shell nor Kernel, as the Elder; &c. only an outward Skin, because the Piths are very short and soft.

HENCE it is manifest, that as the Juices ascending, by the Pith, being more acid and crude than what ascends otherwise, produces that Matter which forms the Stone, Shell, or Skin, of all Fruit; and if by any Art or Management the ascending of the Sap, thro' the Pith can be prevented or restrain'd, the Fruit shall either be freed from that rough, thick Stone, or Shell, usually contained within, or surrounding such Fruit. To this Purpose divers of the Antients have prescribed Rules and Methods, deduc'd from their own Experience and Observation

Observation for effecting thereof; many of which have nevertheless been decry'd and exploded by the Moderns, as absurd and impracticable.

IT would be unreasonable to condemn those who affirm the Practicableness of the Methods they have prescrib'd from their own Experience, barely because another has attempted the same, and fail'd in the Success thereof. We see daily the most experienc'd Gardiner does not succeed in every attempt of Inoculating or Grafting, tho' in the most common Manner, and what every one so well knows how to effect.

DISAPPOINTMENTS may frequently happen from several Causes; the Grafting may not be carefully perform'd; the or it may not be well join'd to the Stock; various Accidents of the Weather may happen, which may destroy the Graft before it is united there unto. But from any such Mischance, which sometimes the most skillful Artist cannot avoid, it would be ridiculous to condemn the Practice of Inoculation, as impracticable, as the Custom of divers of our Ancestors has been, thro' the Miscarriage of one single Attempt, which may be owing to the Unskillfulness of the Artist; the Change of Climate; the Unfitness of the Soil; or various other Accidents.

DEMAGERON, *Paladius*, and divers of the Antients, say, that if a Hole be bored thro' the Heart of a Cherry-Tree, Plumb-Tree, Nut-Tree, Almond-Tree, Peach, Apricot, or Ches-Nut Tree, so that it part the Pith directly, and afterwards the same be fill'd up with a Wedge or Piece of Elm, Willow, or other Bough; and thereby pre-

M vent

vent the Pith from uniting; and waxing up the Hole, so as to keep out the Rain from rotting or damaging the same; you shall have Cherries, Peaches, Apricots, Plumbs, without Stones; or Nuts, Almonds, &c. without Shells.

THIS is a Device natural enough, but is with Difficulty to be perform'd. Instead of a Stopper of Elm or Willow, I would chuse one of the same Wood, with that which I try the Experiment upon, and that not taken from any old dead Tree; but from the Branches of some living one, and not cut out of the Heart thereof neither, but from one Side thereof; because no Part of the Pith should go into it. And likewise I would try the Experiment, by boring the main Stock below the Grafting, and also above the Grafting.

YET before this Method, I should prefer that taught, by *Africanus*, *Paladius*, *Martial*, and divers others, which they direct in this Manner: Take, say they, a young Stock, about two Foot in Height; slit the same quite down to the Root, take the Pith clean out to the Bottom; (and if you then clap in some Wedge, or other Matter, to prevent its again assending from the Root, will be proper) join the two Sides together again, as speedily and carefully as you can; (and having in Readiness some Sea-Onions beat in a Mortar, till they come to a sort of an Ointment, fill up the Cavity therewith;) and bind the same close, with the inner Bark or Rine of the Elm-Tree, or some such Matter; let the Root be cherished with some strengthening Nourishment, and it will soon unite and bear Fruit without Stones, or Shells, according to your Desire.

IT is allow'd, as an undeniable Maxim in Husbandry, that the dryer any Tree is kept, and the more barren the Soil, the tougher and harder is the Stones or Shells of its Fruit; it must therefore follow on the contrary, that all soft, fat, and moist Things, are not only proper for Nourishment, but likewise occasions the Stones and Shells of such Fruit to be less stony and hard.

It therefore we would soften and alter any Fruit, it would be good to apply to the Roots of the Trees Swines Dung, Lees of Wine, and such-like Matters; for those Things work very powerfully; and to let the Trees grow in as moist a Place as conveniently can be; for by an encrease of Moisture the Shell Fruits will have larger Kernels and softer Shells; and likewise Stone-Fruit will have smaller and lesser Stones; and the pulpy Part shall be the mellow and larger.

THAT the Bark of Trees yields a Nourishment to Shell-Fruit, is likewise demonstrable. But *Damegaron* tells us of a Method, whereby the Effect thereof may in a great Measure be prevented; and that is, by opening the Roots of the Trees, and burying Ashes, which will absorb and draw out of the Bark, and drink up the crude Juices which occasions the Shell.

PALLADIUS directs us to water the Roots of the Tree three times a Month, yearly, with Lye, made of Wood-Ashes, which will answer the same Purpose. This, he tells us, will produce the Nut commonly call'd *Nux-Tarentina*, or the Tarentine-Nut. And *Johannes Baptista Porta* tells us, that by practising the like Experiment, he had

growing in his own Orchard of these Tarentine-Nuts; the Shells whereof were so thin and soft, that the same was no more than a thin Skin, which crumbled off as soon as it was touch'd.

COLUMELLA says, a Tarentine Nut, or a Nut without a Shell, may be rais'd in this Manner: Take a Root of Fenel-Gyant, set it in a Pit six or eight Inches deep, where you intend your Tree to grow; cleave the Fenel to the Root, and in the Pith thereof clap the Kernel of a Filbert; but see the same be sound, not bruised, or decay'd; then bind up the Fenel gently, and cover it in the Earth, it will in time produce a Tree, which will bear Nuts without any Shell.

THE Reason of inclosing the Kernel within the Pith of the Fernels, is two fold.

First, To prevent the Vermine from eating it. And,

Secondly, To support the same by moderate Warmth and Moisture, until it is duly concocted, and fit to shoot forth into Branches, when it will force its Way, and take Root accordingly.

DIOPHANES, *Dydimus*, and *Palladius* affirm, That if Apples be grafted into the Plane-Tree they will grow red. Also

AVICENA says, if we engraft Citrons or Lemons into a Pomgranet-Tree they will be Scarlet. And

FLORENTINUS

FLORENTINUS bid us engraft them into a Mulberry-Tree, if we would have them of a Blood-Red Colour.

TARENTIUS and *Diophanes* both affirm, that if Pears are grafted into the Mulberry-Tree, they will be of a Blood-Red Colour. And,

DIOPHANES adds, that if Figs be grafted into the Mulberry-Tree, they will become Red; but that the Mulberry, which occasions all other Fruits, which are grafted into it, to become Red, will itself become White, if it be grafted into the White Poplar-Tree.

AND *Palladius* affirms the same, if it be grafted into the Fig-Tree.

JOHANNES Baptista Porta, in his third Book of *Natural Magick*, relateth a very pleasant Devise of his own Knowledge, which, he says, he had often seen, and called it the Tree of Dainties. And altho' it was invented only for Pleasure, yet the Variety thereof shews many Things which are practicable, and likewise useful. I shall chuse to repeat it in his own Words.

THIS Tree was of a goodly Height and Thickness, being planted in a Vessel fit for the Purpose (and removeable at Pleasure) the Mould about it was of a very fat, moist, and fruitful Nature (as Necessity required to yield Nourishment to such Variety of Fruits as was there produc'd;) so that as well by the Liveliness and Strength of the Plant itself; as also by the Moistness and Thriftiness of the Ground, all Things that were engrafted into it re-

ceived sufficient Nourishment. It had three Branches or Arms; one of which bore various Sorts of Grapes, without any Kernels in them, partly colour'd; some of them were medicinable and good to procure Sleep; others occasion'd the Eaters to be laxative; and others again were pleasant to the Taste. The second Branch or Arm bore a Peach, of a middling Size, different both from the ordinary Peach and the Peach Nut, without any Stone in it, bearing in some Places Peaches, in others Peach-Nuts; and if in any of them there was any Stone, it was generally as sweet as an Almond. On the third Branch or Arm grew Cherries, without any Stones in them; some of which were Sweet and others Sower; and also Oranges of the like Flavour and Relish. From the Bark of this Tree grew out several Sorts of Flowers, Roses, &c. the Fruits were all of them larger then ordinary, and sweeter both in Smell and Taste, flourishing chiefly in the Spring time, they hung upon the Tree, growing after their natural Season was past; and there was a continual Succession of one Fruit after another, even all the Year long, by certain Degrees; so that when one was ripe, there was another budding forth, the Branches being never empty, but still cloged with some Fruit or other. And the Temperateness of the Air served every turn so well, that I never beheld a more pleasant and delightful Sight.

THE Method by which this was done, was by chusing out some fit Tree, with as many Branches as was thought proper, and inoculating several Sorts of Fruits thereon; which Shoots, as they branch'd out again, were diversly inoculated with different Species of Fruit, according to what they had a fancy to produce, by the several Ways before directed. As to the Method of producing the

the Flowers from the Body of the Tree, it was effected in this Manner, by gently opening the outward Bark of the Stock, and letting into it the Roots of several different Sorts; which being supply'd with Nourishment from the Tree, occasion'd them to shoot out and bear, as before describ'd.

THIS Instance may be sufficient to evince what may be affected by Industry and Pains; and if it were possible to raise so many different Sorts upon one and the same Tree, it would be much more practicable to raise one, two, or three Sorts, or to compound them together, by the Methods before directed.

BUT if the Fruits are sorted, they will agree much better, and the less Pains and Difficulty will serve to raise them.

THUS all Sort of Nuts may be grafted with Ease, upon one and the same Stock; and it would be pleasant enough to behold the Hazle-Nut, the Filbert, the Ches-Nut, and Wall-Nut, growing upon different Parts of the same Tree; to which might likewise be added the Almond, and any other Sort of Shell Fruit.

THE same also might be as successfully practised in all Sorts of Stone Fruit, to have as many Sorts as there are Kinds upon one Tree. The Peach, the Nectrine, the Apricot, the Plumbs of various Sorts, as well as Cherries, upon which also might be attempted, the Date and the Olive.

IT has been a received Opinion, that those two last Fruits will not grow in *England*. But that I take to be altogether a chimerical Notion; and the Difficulty consists only in raising the Plants at first.

WE see the Mulberry is a tender Plant to raise; yet after some continuance, that it grows naturalized to the Soil, there are few more hardy. 'Tis the same of the Olive, which *Pliny*, *Virgil*, and others, tell us, will shoot out and flourish, if the dry, wither'd Sticks, or Branches thereof only be set into the Ground.

THE only Difficulty consists in the adapting them to fit and proper Soils; for daily Experience shews us, that the most common Plants and Vegetables will sprout more kindly, and thrive much better in some Grounds than in others; and likewise that the Nature of the Earth causes a great variation in the Fruit.

UPON the Apple-Stock may be grafted all Sorts of Apples, Pears, and such like Fruits; and were the Orange or Lemon grafted thereon, and protected from the Inclemency of the Weather, untill it has attain'd a proper Maturity, the Fruit would not be unpleasant, and might in time be naturaliz'd to the Soil.

As to the Objection of these foreign Plants being unable to bear the Severity of our Seasons, I readily admit, they are not, if we consider them as newly imported; nor does the Method of keeping them in Green-houses and Stoves very much mend that Defect; I mean of those
which

which are more common with us, as the Mirtle, Orange, Lemon, and others of the like kind.

I HAVE myself seen the Tamarine-Tree and the Almond-Tree growing near *London*, in open Gardens, to about Twenty-six or Twenty-seven Foot high, which have bore very kindly; but they were not Plants imported, but rais'd from the Fruit here in our own Soil; by which they became the better reconcil'd thereunto. I have likewise been inform'd, that Orange-Trees are growing in a Gentleman's Gardens at *Exeter*, in the natural Soil, and continue there without the help of the Green-house; nor do I see any sufficient Reason to disbelieve the same.

IT may possibly be objected from the Experience of our Gardiners and Nursery-Men, near *London*, that the Orange Plants, rais'd from Seed (which of late several have proceeded to raise in hot Beds, have been with a little Severity of the Weather, kill'd and destroy'd. The Objection I readily admit; but at the same time deny the Conclusion; for it will not from thence follow, that if those Plants had been rightly manag'd till of a Maturity sufficient to plant out into the open Air, they would then have died.

EXPERIENCE demonstrates the contrary; and a little Observation will shew the Fallacy of the Assertion. Any Plants, whether Natives or Foreigners, if rais'd upon Hot-Beds, or kept pent up in Stoves, will be much tenderer than otherwise, even in the most common Fruit; were it only Apples or Pears; and when these, from their Production, have been for some time kept up from enjoying the Benefit of the Air, if they become suddenly

suddenly expos'd thereto, they are thereby made liable to many Accidents from the Inclemency and Changeableness of the Weather, which they otherwise would not have been liable to.

For by the same Reason, that a Person confin'd in a Bagnio or Hot-House for some time is more subject, and liable to receive and be effected by the Impression of the Weather, if he were suddenly to be turn'd out into the Cold. So are these Plants, and as sensible of the Inclemency thereof; for does the Heat and Closeness of the Bagnio open the Pores of the Body, whereby it gives Admission to the colder Particles of the open Air; so does these Hot-houses, by rarifying the Air within them, relax and opens the Pores in the Barks and Rines of the Trees, whereby the Circulation of the Sap and Juices are hasten'd in their Motion, and become more violent. Therefore it must necessarily follow, that upon any sudden Emmission of the Cold, the Pores become more condens'd, and the Saps and Juices circulates not so freely as they did before, and the Juices which feed and nourish the Tree, being as it were thus arrested or stop'd in their usual Motion by the Inclemency of the Weather; it causes a Stagnation of the Juices, or at least a much slower Circulation than formerly, which occasions the Tree to languish and fade, and if the Stagnation be too violent, then it presently dies.

THE most effectual and successful Method for raising these kind of foreign Plants, is to propagate them from Seed.

First, LET it be consulted what Sort of Soil is proper for them. I would in all Cases procure

a rich Soil, which may yield them a sufficient Supply of Nourishment, with the Addition of as little Heat as possible; to which End I would reject all Stoves or Hot-beds rais'd by Dung, if the Plants I propose can any ways be produc'd without; because it is not possible to keep a constant Supply of the like Heat to the same Plants, when grown up to Maturity. And if a Richness of Soil shall be found equivalent to these artificial Heats, there may be a much greater Probability of supplying the Decay of the one, rather than continuing the Warmth of the other.

BESIDES those Plants which are produc'd chiefly thro' the Richness of the Soil, are not liable to be affected by the Intemperance or Inclemency of the Weather, either hot or cold, as we see those kept in Hot-Houses, Stoves, &c. are.

THIS I have remark'd particularly, that young Orange Plants, rais'd from Seed, upon Hot-beds, and just kept from the Severity of the Weather, till they have been about two Years old, and then transplanted into Pots, for Ornaments in Houses and Windows, have stood the severest Seasons in an open Room expos'd to the Air, without the Help or Addition of any artificial Heat.

I HAVE likewise known others taken at the same time, and kept in the like Manner, which have been destroy'd in that very Season; but enquiring into the Reason, I found it to proceed from this; that the first were kept all the *Winter* without watering the same, whereby the Root was not chill'd; and the others had been water'd several times, which was the very thing that occasion'd their Destruction.

If these Plants are intended to be kept, and we would endeavour to reconcile them to our Climate, the most ready Way to effect our Desires will be, by sowing the Seeds not in a Hot-bed; for tho' that throws them up sooner; yet at the same time it makes such an artificial Heat, necessary for their future Support; but they should be sown in as rich a Soil, and also as light a one as possible, about the Middle of *April*; for then the natural Heat of the Season will cause them to rise, and they ought not to be sown more than two Inches, or at most two Inches and a half deep in the Earth, in this Manner, without the Advantage of any Hot-beds, or additional Heat. I have rais'd these Plants, which will soon shoot up; it will be proper to set them on a rising Ground; because too much Moisture will destroy them, especially at their first appearing. And being thus rais'd, and continuing all the Season expos'd to the Weather, they are the less affected by the Changeableness of the same; and if they be taken up about the latter End of *September*, or *October*, and removed into Pots, with the Advantage of fresh Mould, such as they were first rais'd in, not too moist, and kept in a dry Place, where the Rain comes not upon them, during the *Winter* Season; and in the following Spring planted out again, they will grow more hardy and better reconcil'd to the Climate, and in a few Seasons be able to bear all Weathers, to which they must be innur'd by Degrees; for 'tis not the Coldness of the Seasons that destroys them, but the Barks or Rines of these Plants, being of a very soft and pulpy Nature when young; too much Wet fills up the Pores thereof; and if a Frost ensues, whilst the Water is lodg'd there, it congeals and

and prevents the Sap from Circulating, by which means the Plants are destroy'd.

FOR this reason then, it is that these Plants should be rais'd, in the manner before describ'd, and not kept to tenderly on the one Hand, nor to much expos'd to the Rains and Frosts on the other, until they have obtain'd a hardiness and strength, able to bear the Weather, which they will in a short time do; after which they should be planted on the side of a rising Ground, or behind some Fence, which may secure them from the severity of the Northern Blasts, as well as to give them the, advantage of the Southern Sun; for being thus planted, the Showers which fall sometimes violently, will not prejudice the Roots by watering them to much, but will be carry'd of as they fall, by the decent.

THUS with a little Industry and Pains, it would be practicable to raise Oranges, and Lemons, as we do Peaches and Apricotts, and it would be no unpleasant sight to behold; them planted against our Garden Walls, in the same manner as those Fruits are; which might be easily Effected, by managing these Plants in the Method before directed; and if to defend them from the severity of the Weather, the Walls against which they are planted were a little arch'd, so as to hang over the Trees, it would be a very great advantage to them, because these Trees require very little Water, and a light and dry Soil.

IN the same manner may we introduce divers other Sorts of Foreign Trees into our Gardens, as well for Profit as Pleasure, which is at present

lent thought to be Impracticable, for no other reason than a want of Experience, and Industry, or because an Experiment may not have succeeded upon the first tryal.

THERE is another Experiment I have seen practiced, which is the raising Peaches upon stander'd Stocks, about eighteen or twenty Foot high; and planting them against the Walls of Houses; these have made a very beautiful Appearance, and the Stocks runing up to the height of the second Story, before they were buded; the Peaches then branched out, and ran Arch-wise over the Windows, whilst the body's of the Stocks were cover'd by Vines, which were kept under the Peaches, so that the whole Walls have been cover'd in a very beautiful Manner.

THE Nectarine may also be grafted, or buded, in the same Manner, upon the like Stocks, and will make a very beautiful Appearance.

So may the Apricot, but with this Caution, that it must not then be suffer'd to run to much to Wood, for this Tree being a great Spreader, will over-run its Stock, if it be not kept down carefully, the Consequence whereof will be, that the Fruit becomes smaller, then it would otherways naturally be; and requiring a greater supply of Juices, than the Stock can yeild; both will be thereby destroy'd.

I have seen an other Experiment try'd, of Inoculating the Currant and Gooseberry Tree, upon stander'd Stocks, which being but Young, and not as yet bearing Fruit, I cannot say what the Success will be, but believe the Experiment will

will succeed, for they seem'd to take very kindly, and shot out Branches and Leaves, in great Quantities.

If this Experiment succeeds, were the Curran to be grafted upon the red Cherry Stock, and if the Goose-berry, be rais'd on the Codling Stock, there must consequently be a very great alteration in the Fruit produc'd therefrom

It was a very just Observation of *Virgil's*, which he makes in his Second *Georgick*, that the higher any Trees are suffer'd to grow, the more they spend themselves in Wood, and produce the less Fruit, in Proportion to their Bulk; therefore it would be proper to curb them in their Growth, and not suffer them to grow too high, or too large, for thereby shall we have their Fruits in greater Quantities, and better tasted.

As true likewise is his Assertion of those Trees which grow wild, that if they be removed and transplanted into Orchards, with good Pruning and frequent Cultivating, they will loose their old Disposition, and bear good Fruit, even without Grafting or Inoculating; much more so, if they have the same Improvement, with the Advantage of being grafted or inoculated.

LA CERDA reduces the artificial Generation of Plants into the following Heads, *viz.* Avulsion, Infossion, or burying them in the Earth, Propagation (which is, the bending down the Branches, and setting the Twigs or Shoots in the Ground, which is what is practis'd by our Gardiners and Nursery-Men in raising Vines, Mulberries, and by them called Laying, Transplanting; whereby

whereby the worser Sort of Fruits are improv'd and made better, by Slipping, by Concision, Incision, Inoculating, or Grafting. Of which Method Inoculating and Grafting, tho' they are look'd upon as several Arts. I have in some Parts of this Treatise used the Term promiscuously, the Method of Inoculating, being but a Part of Grafting; those who hold them for several Arts, will readily distinguish in which Sense they are to apply the Term, the Difference being only betwixt Grafting upon the Head of the Tree, and into the Bark, the latter being a Method invented to avoid the Difficulty of grafting upon the Head, which frequently happen'd in such Sorts of Stocks, whose Piths were very short.

OTHERS account but fix Sorts of artificial Production, and several reckon no more than five.

AMONG the Antients, the custom of Infossion or burying in the Earth, which is what I have before describ'd, was frequently practiced in the raising of Vines particularly; besides which, they also made use of these other Methods viz. by Incision, or the ordinary manner of Grafting, though this way is now quite out of use, the only reason it should be so, is because it requires a great deal of care to effect it, but if done by a prudent Hand, the Consequence will be, that the Fruit will be found to be much finer, better, and preferable to any other; another way was by Terebration or Boring through the middle of the Stock, which is not mention'd by *La Cerda*; and this Method as it answers the ends of Grafting or Inoculating, so it may be applied

ed to most other Fruits as will as Vines, and with equal Success, by drawing the Cions into the Hole made through the Stocks, as has been before describ'd. Also another Method which is mention'd by the Lord Viscount *St. Albans*, in his Natural History, and of which I have before given several Examples, is the parting of two Vines &c. which grew near together, by flitting them through the Middle, and binding the contrary parts together.

VIRGIL tells us, that the Apple may be engrafted into the barren Plane-Tree; and that from thence the Fruit shall be improv'd, so as to be preferable to any other.

THIS Plane-Tree I do not know that it is yet brought into *England*; if it were, it is capable of two Uses; the first for engrafting upon, according to *Virgil*; for it very much improves whatever is inoculated thereon; the second for its pleasant and delightful Shade. It was esteem'd by the *Grecians*, and reckon'd amongst the Delights of the ancient *Romans*. *Pliny* gives us this Character of it. *Who will not wonder, says he, at that Tree, which for its sake only, is fetch'd from another World?* And adds, *It was first brought thro' the Ionian-Sea to Diomedes his Island, purposely to grace his Monument; From thence transferr'd into Sicily, and of chief Esteem in Italy; afterwards transferr'd to the Morini, and was rated with the tributary Soil, Nations paying Excise even for its Shade.*

AND if we will believe *Achan*, he tells us, the Affection of *Alexes* was so great for this Tree, that seeing one of them as he was march-

N
ing

ing upon an Expedition, at the Head of his Army, he suddenly order'd them to halt, and pitch their Tents about it; and continued there a whole Day, without any other Motives to induce him thereunto, than only the Pleasure and Satisfaction he took in its Shade; and adorn'd the Boughs and Branches thereof with Chains, Bracelets, and Ornaments of Gold; and appointed an Overseer to attend and look after the same.

THIS Tree, tho' it be Steril, yet according to this Account, must be very acceptable to the Curious; and if we credit *Ælian* and *Virgil*, has already been a great Traveller, and possibly might be induc'd to become naturaliz'd to our Soil, were but some ingenious Hand employ'd in the Propagation thereof.

THE Olives as well as the Almonds are frequent in many Parts of *France*; and as they are both hardy Trees, I do not apprehend there would be any Difficulty more than is common to others, to raise them in this Country. The Almonds I have seen growing already, and they bear Fruit here to Perfection; tho' I know but two of those Trees, and one of the Tamarines in the common Gardens about *London*.

OF the Olives *Virgil* tells us of but three Sorts, *viz.* the *Olivæ*, so called from their Roundness; the *Radies*, so called from their Length, according to *Isidore*, when he says, *Radix pro eo quod oblongæ sunt in modum Radiorum*; and the *Fausian*, which hath its Name, a *Pariendo*, according to *Cato* *Servius* and *Isidore*, from to stamp or pound, because the last Sort are not fit to be eaten,

eaten; and are therefore stamp'd or bruise'd to make Oil of.

HOWEVER *Columella* reckons up no less than ten several Sorts; and *Macrobius* numbers up seventeen, were the Experiment of planting them attempted here, I am persuaded the same would answer, from what I have seen of this Tree in foreign Parts, where the Advantage of Climate has been of so little Difference, that I cannot be persuaded to think it has been any help at all to it.

HOMER, in his Ninth *Odysses*, celebrates *Alcinous* as a great Encourager and Promoter of the Improvement of Fruits, and particularly the Apples, several Sorts of new Productions being owing to his Industry.

THE *Cruftuminian* and *Syrian* Pears were famous in the Days of *Virgil*. *Columella* reckons up Seventeen several Sorts; *Macrobius* Thirty-one; and *Pliny* no less than Thirty-five. How many Improvements may have been since their Days discover'd, I will not say, but am certain an ingenious Person may, by observing what has been before directed, produce in a short time as many other Sorts, as there are at present.

It may not be amiss to say something here, relating to the various Sorts of Soil, and how far each is applicable to several Species of Fruits; there being some Ground which will agree very well with one Sort, but are very prejudicial to others; and also lay down some necessary Instructions for discovering the several Qualities and Properties of the Earth in divers Places, for want of a true Understanding, whereof many Attempts of Improvement

are frustrated and render'd ineffectual to the Discouragement of the Ingenious, who not observing or knowing the Qualities of the Ground, are induc'd to believe many things impracticable, because they do not succeed, when the Obstruction is owing to the want of proper Soil, Manure, or Culture.

VIRGIL, in his First *Georgick*, distinguishes all Grounds into four Sorts or Kinds, which Distinction *Servius* tells us, he took from *Varro*, who says, all Grounds are distinguished into four Sorts, *i. e.* *Arable* for Grain and Corn; *Sative* for Plants and Trees; *Pasture* for Grazing; and *Herbage*; and *Floral* for Gardening and Bees; each of which may again be subdivided into several other Kinds, as hot and cold, moist and dry, fruitful and barren, heavy and light, &c.

BUT as my Intention is to treat of that Part of Agriculture only, which may serve to illustrate the present Subject, I shall confine myself thereunto.

IN order to which, first should be consulted the Nature of the Plants we intend to cultivate; for tho' they are of such a Species as may grow in any Soil; yet 'tis an infallible Rule, that they will thrive much better in one particular Soil than in another.

THE Yew-Tree particularly delights in a heavy, cold, moist, shadey Soil, because its Nature is such, that it is best nourished by noxious and cold Juices, which occasions its Toughness and Solidness.

HENCE

Hence it is said to be an Enemy to most other Trees and Plants, because of its delighting in Soils hardly proper for any other Trees, Plants, or Herbage. Another Reason is, because of the Closeness and Continuity of its Branches, by which it not only obscures the Sun-Beams, but even intercepts the descending Dews and Rains, and prevents their falling upon any thing below it; so that by the Coldness of the Soil on the one Hand, and the want of the Sun's benign Influence on the other, whatever is planted near it languishes and decays.

THE Apple, Pear, and most Sorts of stander'd Fruits delight in a warm and light Soil, where with a moderate Degree of Moisture they will thrive extraordinary well. If these are planted in a heavy, cold Soil they will neither bear so well, nor shall the Fruit be so large, so well tasted, so many in Number, nor so soon ripe, as otherwise they would.

THERE are indeed divers who plant them in moist Grounds, near the Sides of Ditches, Rivers, &c. and if the Soil be light and mellow they will bear considerably, and very good Fruit, of the largest Size, and also pleasant, but fit only for present spending, for it will not abide the *Winter*, more especially in softer Fruits, they being more moist and watery than others which grow in higher Grounds; however for *Summer* Fruit, that Objection will be of the less Force, because in that Season most Fruit is prefer'd for its Coolness.

THE Quince and Medler will indeed thrive best in low, moist Grounds, even, where their Roots lye altogether in the Water; for both these Trees delighting in Moisture, they imbibe the same, and their Fruits grow much larger than if they stood in a dryer Soil; nor does it render them more unpleasant to the Taste; on the Contrary, they grow larger, pleasanter, are sooner ripe, and produc'd in greater Quantities, than if they grew in other Grounds.

THERE are very few Fruit Trees, especially in *Holland*, but what are planted on the very Brinks and Edges of their Ditches and Canals, where in the *Winter* time especially, the Grounds lye all under Water; notwithstanding which, their Fruits are generally very fair, large, and beautiful to look upon. The Reason is, that the Soil being only a Compound of Sand and slimy Dirt (fish'd from the Bottoms of their Canals, which they are yearly oblig'd to do, and spread over the Surface of their Lands, to keep them above Water) is very light, and by the free Emif-
sion of the Air and Sun-Beams, consequently hot and mellow.

THIS Soil being thus thrown up annually, is like a yearly Manuring of the same, and being consequently fat and mellow, is heated by the Mixture of Sand taken up with it, which occasions the Fruit to ripen sooner, and grow larger, as in greater Quantities, than it would do in dryer Grounds, where it had not the Advantage of being so frequently manured and cultivated.

THE

THE Quince and Medler particularly grow much larger there than here, from the Reasons last before mention'd. And those Persons who will take Example by their Experience, will soon find the Advantage thereof.

THE Cherries naturally love a hot Soil, not too dry, but moderately moist; nay, they will thrive much better in a moister Soil, so that the same be of a light, mellow Nature, than they will in a dry one, as frequent Experience shews; and the Fruit shall be much larger, deeper colour'd, and better tasted than otherwise it would.

A HEAVY and moist Soil, or a cold and clayey one, is by no Means proper; nor is a gravelly, loomy Soil; for that is not only too cold, but likewise buds and pinches the Roots too much.

A WARM and moist Soil, or a light, dry, gravelly, and chalky, is the most proper for this Tree.

IN France they are frequently planted upon hilly Grounds; but then the Soil is generally, light, and sandy, or chalky, which imbibes the Rain when it falls, and thereby replenishes and feeds them with a sufficient Supply of Water.

AND this Fruit, as well in France as in Holland, tho' rais'd upon different Soils, the one being hot and dry, the other moist, yet each of them are mellow and light, the one naturally so, the other made so, by its ready imbibing and drinking up the Moisture, is in both Places generally fairer and larger than with us.

As to Vines likewise, they may be rais'd upon divers Soil. I have sufficiently describ'd those of *Burgundy* and *Champaign*, with the Method of Tillage and Culture; I shall therefore here mention several other Sorts, which may be applicable to the same Uses.

A **LIGHT**, dry, Soil, either gravelly, stoney, or chalky, is most proper; for as the Vines both love and require a good deal of Moisture, so in these Soils, when ever the Rains or Dews fall, they are presently drunk up and swallow'd by the Lightness of the Soil, and the Openess of the Earth, and the Particles thereof fatten and mellow the same, to the better nourishing of the Plants.

A **LIGHT**, mellow Soil, if it be any thing sandy, is always warm, and is therefore proper for Vines, where the same are shelter'd by any Wall, or any proper Fence; and the Grapes that grow thereon will be generally more large than the other, as soon ripe, and as pleasant to the Taste, but will not continue altogether so long upon the Vines as the other, being of a more watery Nature than those are.

A **FIRM** and mellow Soil, if it be light, will produce very good Vines, but they will be more proper for the Tooth than for the Press; for the Grapes will be very large and fair, and likewise pleasant to the Palate.

A **COLD**, heavy Soil is in no wise proper; neither is a clayey one, nor a moist, heavy, gravelly one; for in any of these Grounds the Vines will never come to any Perfection.

THE Damson delights in a light, mellow Ground; in a heavy, gravelly, loomy, or clayey Soil, it will not thrive; neither will it in too dry a one, but the Fruit there, will grow small and full of Gum, and be harsh and unpleasant to the Taste.

PEACHES, Apricots, Nectarines, &c. love a light, warm, mellow Soil, in which they thrive best. A clayey Ground, loomy, heavy, cold, gravelly Soil, will not nourish them at all.

HORSE Dung is not proper by any Means to be apply'd to these Trees; for it gives an ill Flavour to the Fruit, scorches the Roots, and breeds Vermine, which will destroy them.

If your Soil is not light enough, without the Addition of any artificial Compost; the best way to mend the same will be this: Dig away the Earth in the Places where you would plant your Trees to a Breadth necessary, and about three Foot in Depth; and if you have any old Cow-Pastures adjoining, let the Surface of the Earth be pared therefrom, for about six or eight Inches in Thickness; with this Mould fill up all the Places where you intend to plant your Trees, and set your Stocks carefully in the midst thereof; if they be set against a Wall, let not the Roots of your Stocks be planted close to the Wall, but at about the Distance of eight or nine Inches, or rather more therefrom, inclining the Head of your Plant to the Wall, but not so near as to touch the same, yet enough to fasten the young Shoots thereto, without bruising or straining the same.

In this Order let them grow, and use the proper Method of pruning and trimming the same at their convenient Seasons; and if amongst the Earth you bring from the Cow-Pastures to fill up the Places where you intend to plant your Fruit Trees, you intermix the Leaves, Rines, and soft Barks, or Pillings of other Fruit Trees, it will improve and lighten the Soil yet more.

So also will Sheeps Dung, Hogs Dung, and the Lees of Wine, or Blood of Beasts; for by their Acrimony they wonderfully help and invigorate all Trees.

GOOSEBERRIES, and Currants also, will grow much better, larger, fairer, and pleasanter in Taste, for being planted in a light, mellow Soil; but as these take no deep Root, they will thrive well enough upon a gravelly Bottom, but a clayey Ground is not good for them, but causes the Fruit to dwindle, and grow less. These love Water, and thrive extraordinary well if they be planted on the Edges of Ditches, Canals, and Ponds, even if their Roots lye under Water.

A LIGHT, sandy Soil is proper for the Almond, the Tamerine, and the Olive; and if it incline a little to the gravelly, or chalkey, so it be not too moist, will not be amiss.

THE Citron-Tree, according to *Virgil*, *Pliny*, and *Solinus*, was in their Times only growing in *Media*; but was afterwards, by the Dilligence of *Palladius*, brought into *Italy*; and from thence since transplanted into other Parts. It covets a very light

light and dry Soil, and requires but a little Water.

A COLD, heavy Soil is easily distinguish'd by the Weight.

A BLACKISH, slimey, clayey Soil is pernicious and destructive to almost every thing.

A MELLOW, rich Soil is readily distinguished; for if it be moulded in the Hand, it will not crumble, but stick to the Finger, like Pitch or Clay.

WHEN you have made choise of your Soil, plant not your Trees promiscuously without any Order, but observe a regular Distance in the same, which your own Discretion will lead you to vary according to the Nature of the Fruits you intend to plant.

IF you desire a Plantation of Fruit Trees, all of one Species, their Distance must be greater than otherwise they would need to be; and for this Reason, that they all require the like Nourishment; and if they be too close, the Ground will not yield them a sufficient Quantity for their Support, but they will bear much less in Proportion than they would otherwise do.

IT would be the properest to intermix Trees of different Species; for they drawing several Juices from the Earth, would not deprive each other by their Neighbourhood of that Ailment, which is proper for their Subsistence.

THE frequent digging about the Roots of all Fruit Trees is an Advantage to the Trees in general,

neral, as it admits the fresh Air, by opening the Pores of the Earth, which otherwise by long lying will be shut, and keep out the kind Influence of the Sun-Beams, and repel the Dews and Vapours which fall upon the Ground in the Night-time, and thereby prevent the Trees from receiving that Nourishment therefrom, which they otherwise would.

VIRGIL directs us to lay Shells and Lime Stones about the Roots of the Trees, those which are new set especially; the Reasons he gives for it is that it prevents the descending Rains and Dews from being exhaled by the Heat of the Sun, and the Ground thereby exhausted of that Moisture proper for the Nourishment of the Plant.

I SHALL conclude what I have before said, with some Direction for helping and improving of Lands, by quoting several Remedies for the same, taken from *Francis*, Lord Viscount St. Albans, in his *Natural History*; where speaking of Experiments in Consort, touching all manner of Composts and Helps of Ground, he saith.

“ THE first and most ordinary Help in *Stercoration*,
 “ is that of *Sheeps Dung*, which is one of the best;
 “ and next the *Dung of Kine*; and thirdly, that of
 “ *Horses*, which is held to be some-what too hot,
 “ unless it be mingled. That of *Pigeons* for a
 “ Garden, as a small Quantity of Ground excelleth;
 “ the ordering of *Dung* is, if the Ground be *Arable*
 “ to spread it immediately before the *Ploughing*
 “ and *Sowing*; and so to *plough* it in: for if you
 “ spread it long before, the *Sun* will draw out
 “ much of the *Fatness* of the *Dung*; if the Ground
 “ be *Grazing Ground*, to spread it some-what late,
 “ towards

“ towards *Winter*, that the *Sun* may have the less
 “ Power to dry it up.

“ THE second Kind of *Compost*, is, the spread-
 “ ing of divers Kinds of *Earth*, as *Marle*, *Chalk*,
 “ *Sea-Sand*, *Earth upon Earth*, *Pond-Earth*, and
 “ the *Mixtures* of them. *Marle* is thought to
 “ be the best; as having most *Fatness*; and not
 “ heating the *Ground* too much. The next is *Sea-*
 “ *Sand*, which no doubt obtaineth a special *Virtue*
 “ by the *Salt*; for *Salt* is the first *Rudiment* of
 “ *Life*. *Chalk* over heateth the *Ground* a little,
 “ and therefore is best upon cold *Clay-Grounds*, or
 “ *Moist-Grounds*. But I heard a great *Husband* say,
 “ that it was a common *Error* to think that
 “ *Chalk* helpeth *Arable Grounds*, but helpeth not
 “ *Grazing Grounds*; whereas, indeed, it helpeth
 “ *Grass* as well as *Corn*, but that which breedeth
 “ the *Error* is, because after the *chalking* of the
 “ *Ground*, they wear it out with many *Crops* with-
 “ out *Rest*; and then, indeed, afterwards it will
 “ bear little *Grass*, because the *Ground* is tyred
 “ out. It were good to try the laying of *Chalk* up-
 “ on *Arable Grounds* a little while before *Plough-*
 “ *ing*; and to *plough* it in as they do *Dung*; but
 “ then it must be tryable first by *Rain*, or *Lying*.
 “ As for *Earth*, it compasseth itself; for I knew a
 “ great *Garden* that had a *Field* (in a manner)
 “ powered upon it; and it did bear *Fruit* excel-
 “ lently the first Year of the *Planting*; for the
 “ *Surface* of the *Earth* is ever the fruitfullest.
 “ And *Earth* so prepar'd hath a double *Surface*.
 “ But it is true, as I can conceive, that such *Earth*
 “ as hath *Salt-Petre* bred in it, if you can pro-
 “ cure it without too much *Charge*, doth excel.
 “ The way to hasten the *breeding* of *Salt-Petre*, is
 “ to forbid the *Sun*, and the *Growth* of *Vegetables*;
 “ and

" and therefore if you make a large *Horbell*, thach-
 " ed over some Quantity of *Ground*; nay, if you
 " do but pluck the *Ground* over, it will breed
 " *Salt-Petre*. As for the *Pond-Earth*, or *River-*
 " *Earth*, it is a very good *Compost*, especially if
 " the *Pond* has been long uncleansed, and so the
 " *Water* be not too hungry: And I judge it
 " will be yet better, if there be some *Mixture* of
 " *Chalk*.

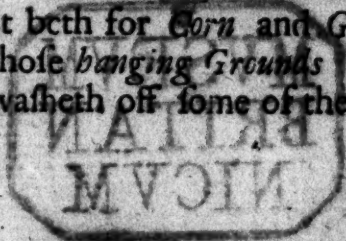
" THE third *Help* of *Ground* is by some other
 " *Substances* that have a *Virtue* to make *Ground*
 " fertile; though they be not merely *Earth*, where-
 " in *Asbes* excel; in so much as the Countries
 " about *Aetha* and *Vesuvius* have a kind of *Amends*
 " made them from the *Mischief* the *Eruptions*,
 " many times, do, by the exceeding *Fruitfulness*
 " of the *Soil*, caused by the *Asbes* scatter'd about.
 " *Soot* also, tho' thin spread in a *Field* or *Garden*,
 " is tryed to be a very good *Compost*. For *Salt* it
 " is too costly; but is tryed, that mingled with
 " *Seed-Corn*, and sown together, it doth good.
 " And I am of Opinion, that *Chalk* in powder,
 " mingled with *Seed-Corn*, would do good; per-
 " haps as much as *chalking* the *Ground* all over:

" THE fourth *Help* of *Ground*, is the suffer-
 " ing of *Vegetable* to die into the *Ground*, and so to
 " fatten it; as the *Stubble* of *Corn*, especially
 " *Pease*. *Brakes* cast upon the *Ground* in the Be-
 " ginning of Winter, will make it very fruitful. It
 " were good also to try whether *Leaves* of *Trees*
 " swept together, with some *Chalk* and *Dung*
 " mixed, to give them more *Heat*, would not
 " make a good *Compost*. For there is nothing lost,
 " so much as *Leaves* of *Trees*; and as they lye
 " scatter'd,

Scatter'd, and without Mixture, they rather
make the Ground lower than otherwise.

THE fifth Help of Ground is Heat and Warmth
It hath been anciently practis'd to burn Heath
and Ling, and Sedge, with the Vantage of the
Wind, upon the Ground. We see that Warmth of
Walls and Enclosures mendeth Ground. We see
also that lying open to the South mendeth Ground.
We see again, that the Foldings of Sheep help
Ground, as well by their Warmth, as by their
Compost. And it may be doubted, whether the
covering of the Ground with Brakes in the Be-
ginning of the Winter (whereof we speak in the
last Experiment) helpeth it not, by reason of the
Warmth. Nay, some very good Husbonds do
suspect, that the gathering up of Flints in Thisly
Ground, and laying them on Heaps (which is
much used) is no good Husbandry; for that
they would keep the Ground warm.

THE sixth Help of Ground is, by Watering
and Irrigation, which is in two Manners; the
one by letting in, and shutting out Waters, at
seasonable Times: For Water, at some Seasons,
and with reasonable stay, doth good; but at
some other Seasons, and with too long stay, it
doth hurt. And this serveth only for Mea-
dows, which are long some Rivers. The other
Way is, to bring Water from hanging Grounds,
where there are Springs, into the lower Grounds,
carrying it in some long Furrows. And from
those Furrows, drawing it traverse, to spread
the Water. And this maketh an excellent Im-
provement both for Corn and Grass. It is the
richer if those hanging Grounds be fruitful, be-
cause it washeth off some of the Fatness of the
Earth.



" *Earth.* But howsoever it profiteth much. Ge-
 " nerally where there are great Overflows in *Fens*,
 " or the like, the drowing them in the *Winter*;
 " maketh the *Summer* following more fruitful:
 " The Cause may be; for that it keepeth the
 " *Ground* warm, and nourisheth it. But the *Fen-*
 " *Men* hold, that the *Sewer* must be kept so,
 " as the *Water* may not stay too long in the
 " *Spring*, till the *Woods* and *Sedge* be grown up;
 " For then the *Ground* will be like a *Wood*, which
 " keepeth out the *Sun*; and so continueth the
 " *Wet*, whereby it will never graze, to purpose;
 " that Year.

F I N I S.



MVSEVM
 BRITAN
 NICVM

